A Review of State Agency Services Used by South Carolina Department of Probation, Parole, and Pardon Services (SCDPPPS) Offenders for FY2012–FY2015 Closure Population

By LaQuenta L. Weldon, South Carolina Department of Probation, Parole, and Pardon Services

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Introduction

The South Carolina Department of Probation, Parole, and Pardon Services (SCDPPPS) is responsible for more than 40,000 offenders under its jurisdiction. Among the agency's many responsibilities is ensuring that appropriate services are provided to those offenders by other agencies. Although SCDPPPS has forged cooperative relationships with service agencies to provide treatment of offenders under community supervision, these entities maintain separate information systems that use their own various methods of client identification, thus hindering the ability to analyze and evaluate effectiveness of services.

Linking community supervision offender records to their client records in behavioral health and other service providing agencies would provide direct access to the information required to accurately determine the nature of services provided, degree to which offenders are complying with treatment requirements, and additional information not readily available at the present.

The South Carolina Integrated Data System (SCIDS) collects data from over 20 state agencies and organizations allowing researchers to compare data across various agencies. SCDPPPS has joined with various other state and non-governmental agencies to merge data from those participating in SCIDS to develop offender-centered aggregate data. The operator and custodian of SCIDS is the South Carolina Revenue and Fiscal Affairs Office (RFA), which will perform the linking needed.

Data from other agencies to be linked include emergency room and inpatient visits (South Carolina Data Oversight Council), assistance via Medicaid (South Carolina Department of Health and Human Services), mental health records (South Carolina Department of Mental Health), the Supplemental Nutritional Assistance Program (SNAP) and Temporary Assistance for Needy Families (TANF) (South Carolina Department of Social Services), death certificate data (South Carolina Department of Health and Environmental Control), and juvenile records (South Carolina Department of Juvenile Justice).

Data Limitations

While the original intent of this project was to determine the nature of services provided and degree to which offenders are complying with treatment and other requirements, it was found to be more complex in nature. During data collection and analysis, problems arose making it difficult to complete the original project's purpose.

During collection, it was imperative to obtain data from the South Carolina Department of Employment and Workforce (SCDEW), South Carolina Department of Alcohol and Other Drug Abuse Services (SCDAODAS), South Carolina Department of Mental Health (SCDMH), and South Carolina Department of Education (SCDE) in order to fulfill the project's purpose. However, SCDMH was the only department able to be linked with SCDPPPS data through the RFA. This hindrance resulted in shifting the design and intent of the study completely, and it was decided to use other agencies that were available.

After obtaining data from other state agencies, the biggest concern included SCDPPPS receiving only aggregate data from RFA rather than individual level data. If individual level data had been available, any employee of SCDPPPS (who is experienced and knowledgeable of offender level

data) could manipulate, transform, and analyze the data for various purposes and uses. By receiving only aggregate data, the report ended up becoming a review of state agencies used by SCDPPPS offenders rather than an analysis of compliance with treatment and other conditions of supervision.

Although the project did not fulfill its original intent, SCDPPPS was able to gather information about the use of other state agencies by its offender population. If data becomes available in the future, SCDPPPS could revisit the original study intent by determining the extent to which offenders are complying with treatment and other conditions of supervision.

Methods

Data Linkage Method

Linking records from autonomous agencies with different methods for identifying unique client records is a skill that has enabled RFA to maximize the utility of the data it maintains in its role as operator and custodian of SCIDS. RFA has developed an algorithm that uses social security number, first name, middle initial, last name, date of birth, race, gender as well as any other available identifiers to identify possible matches across information systems. This algorithm accounts for misspelling, name changes, transposed digits and discrepancies in the date of birth and computes a match-score probability. All of the cleaned/standardized identifier fields on a record are compared to existing records for exact or partial matches.

A 'MatchType' is then assigned for each potential match. The MatchType is a string of characters that represent the match for a certain field. For example, SSN can be an exact match, one digit different, two digits transposed, shifted one position to the left or right or shifted two positions to the left or right. A 'MatchScore' (the rate indicating how often this MatchType yields the same person) and a 'FieldScore' (the number indicating the strength of the fields that matched) is then assigned to the record.

Records with a MatchScore below a determined threshold of 60% are immediately discarded as not being the same person. For each individual original record for which there are records with a MatchScore of 90 or greater, a single record is chosen as the actual match using a hierarchy of specified criteria. Once that single record match is chosen, the Unique ID from the matched record is assigned. If no records for a given original record have a MatchScore of 90 or greater, all candidates for that original record are kept to combine with more possible candidates determined in more 'fuzzy' matches. The process of scoring is then repeated for all records in the pool. The algorithm accounts for misspelling, name changes, transposed digits in the social security number, and slight differences in the date of birth.

The Unique ID is in no way affiliated with an identifier associated with an individual, i.e., social security number or date of birth. An individual's Unique ID stays with them on all subsequent episodes of services, regardless of data source or service provider. For each additional record, public or private, submitted to the RFA, a comparison is made to the "unduplicated" person file. If that individual is found, then the designated key linker is assigned to that episode of service. If that individual is not found, then he or she is added to the unduplicated file and assigned Unique

ID. During this process, an individual's personal identifiers are never associated with the service received in order to protect confidentiality. The final statistical file contains no personal identifiers, only the Unique ID, which is not related to anything about the person.
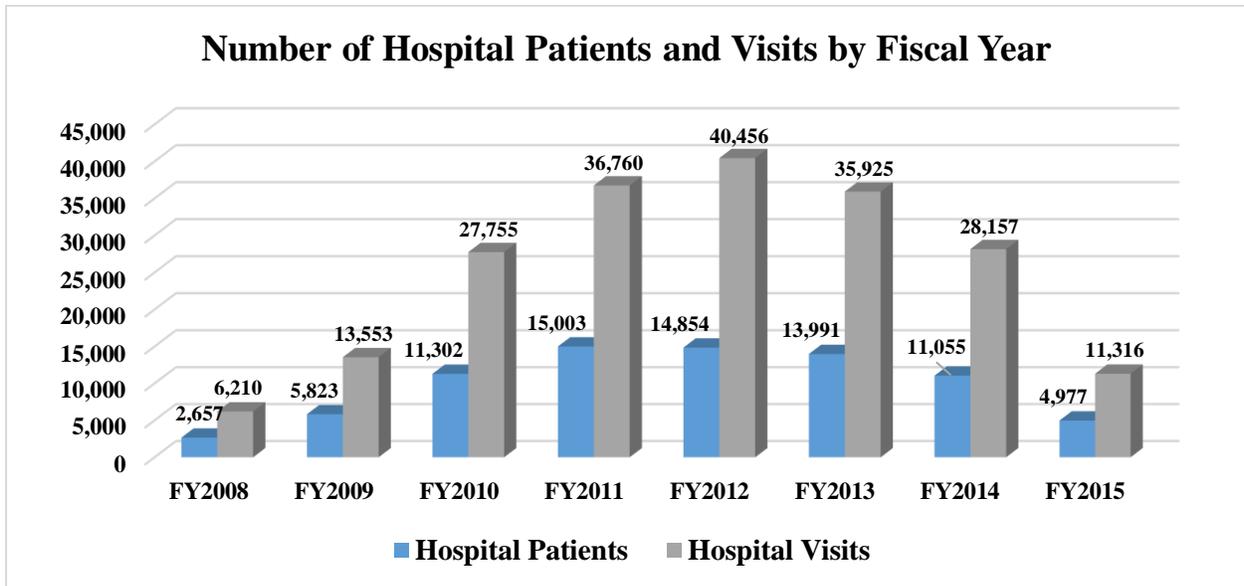
Offender Related Hospital Data Results

Total Hospital Inpatient and Emergency Room Patients

A total of 78,681 individual offenders whose cases closed between July 1, 2011 and June 30, 2015 was sent to RFA for analysis. Based on each offender's case begin date and case end date, RFA created cohorts for active years. The table below shows information related to created cohorts. Due to length of supervision, individuals may be counted in multiple fiscal years.

Fiscal Year	Case End Date	Case Begin Date	Frequency
2008	≥ 07/01/2007	≤ 06/30/2008	9,747
2009	≥ 07/01/2008	≤ 06/30/2009	18,702
2010	≥ 07/01/2009	≤ 06/30/2010	32,144
2011	≥ 07/01/2010	≤ 06/30/2011	45,118
2012	≥ 07/01/2011	≤ 06/30/2012	42,825
2013	≥ 07/01/2012	≤ 06/30/2013	39,087
2014	≥ 07/01/2013	≤ 06/30/2014	31,033
2015	≥ 07/01/2014	≤ 06/30/2015	16,680

There were a total of 79,662 inpatient/emergency department patients totaling 200,132 visits from FY2008 to FY2015.

Number of Hospital Patients and Visits by Fiscal Year

	Hospital Patients	Hospital Visits
FY2008	2,657	6,210
FY2009	5,823	13,553
FY2010	11,302	27,755
FY2011	15,003	36,760
FY2012	14,854	40,456
FY2013	13,991	35,925
FY2014	11,055	28,157
FY2015	4,977	11,316

Hospital Patients by County Size

Over 80% of all patients seen were from the Big Four and Large Counties. The appendix shows a list of counties by county size. The top five counties with the highest percentage of hospital

patients within the study population were Greenville (12.5%), Charleston (8.7%), Richland (8%), Spartanburg (7.8%), and Horry (4.4%).

Percentage of Hospital Patients by County Size

0.4%
5.8%
13.1%
37.0%
43.8%

■ BIG FOUR   ■ LARGE   ■ MEDIUM   ■ SMALL   ■ OTHER
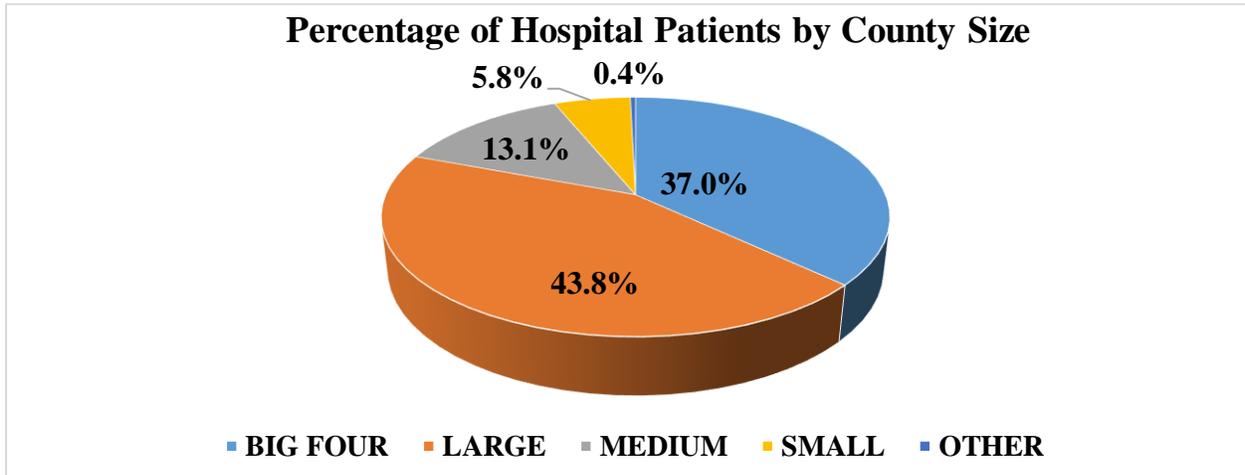
Hospital Visits by Offense Type

Offenses were grouped into categories based on a keyword of the offense. The top five offense categories with the highest percentage of hospital patients were

1. Drug (25%)
2. Burglary (12%)
3. Assault (10%)
4. Larceny (7%)
5. Forgery (5%).

Top Diagnoses for Inpatient Visits

About 25% of all *inpatients visits* were diagnosed with

1. Acute Pancreatitis (6%)
2. Previous Cesarean Delivery (5%)
3. Diabetes with Ketoacidosis (5%)
4. Sickle-Celled Disease (4%)
5. Pneumonia (4%).

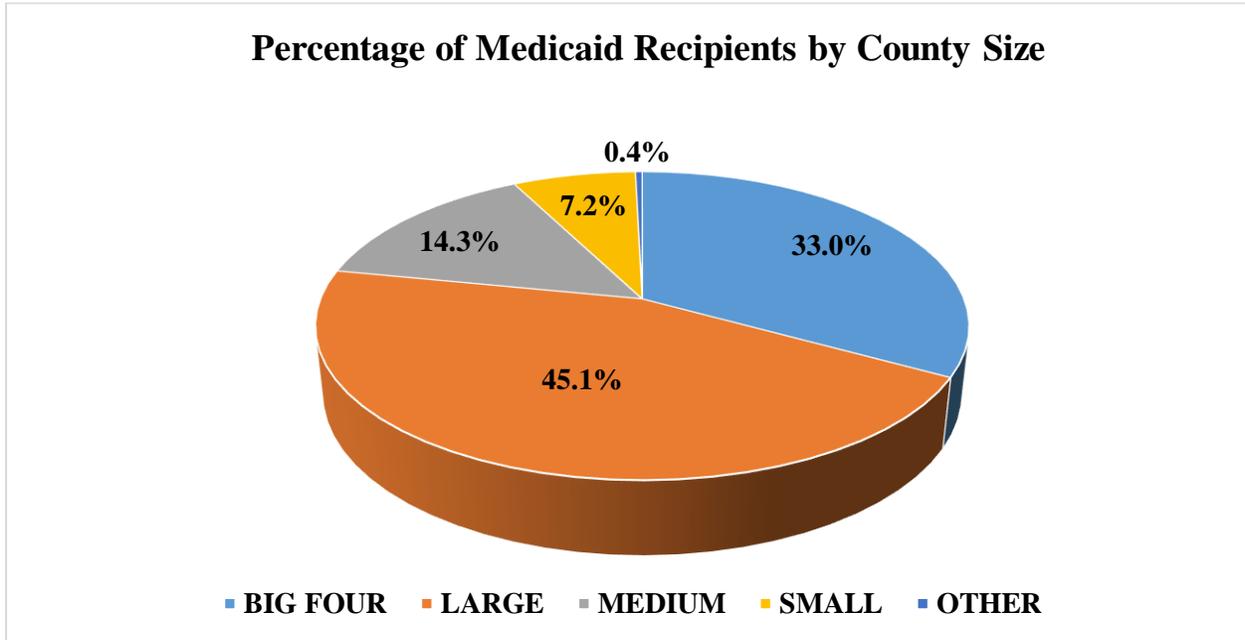**Top Diagnoses for Emergency Department Visits**

About 25% of all *emergency department* visits were diagnosed with

1. Lumbago—Lower Back Pain (5%)
2. Headache (5%)
3. Abdominal Pain (4%)
4. Sprain of Neck (4%)
5. Dental Disorders (4%)
6. Acute Bronchitis (3%).

Medicaid Assistance Results

Medicaid Assistance by County Size

Of those that closed FY2012–FY2015, 14,034 (17.8%) were enrolled in the SC Medicaid program FY2012–FY2015. Over 75% of all recipients were located in the Big Four or Large Counties.

Percentage of Medicaid Recipients by County Size

0.4%	
7.2%	
14.3%	33.0%
45.1%	

■ **BIG FOUR**　■ **LARGE**　■ **MEDIUM**　■ **SMALL**　■ **OTHER**

Medicaid Assistance by Offense

Of those who closed FY2012–FY2015, over half (58%) were enrolled in the Medicaid program during FY2012–FY2015 for drug (27%), assault (9.9%), burglary (10.5%), forgery (5.3%), or larceny (5.6%) type offenses.
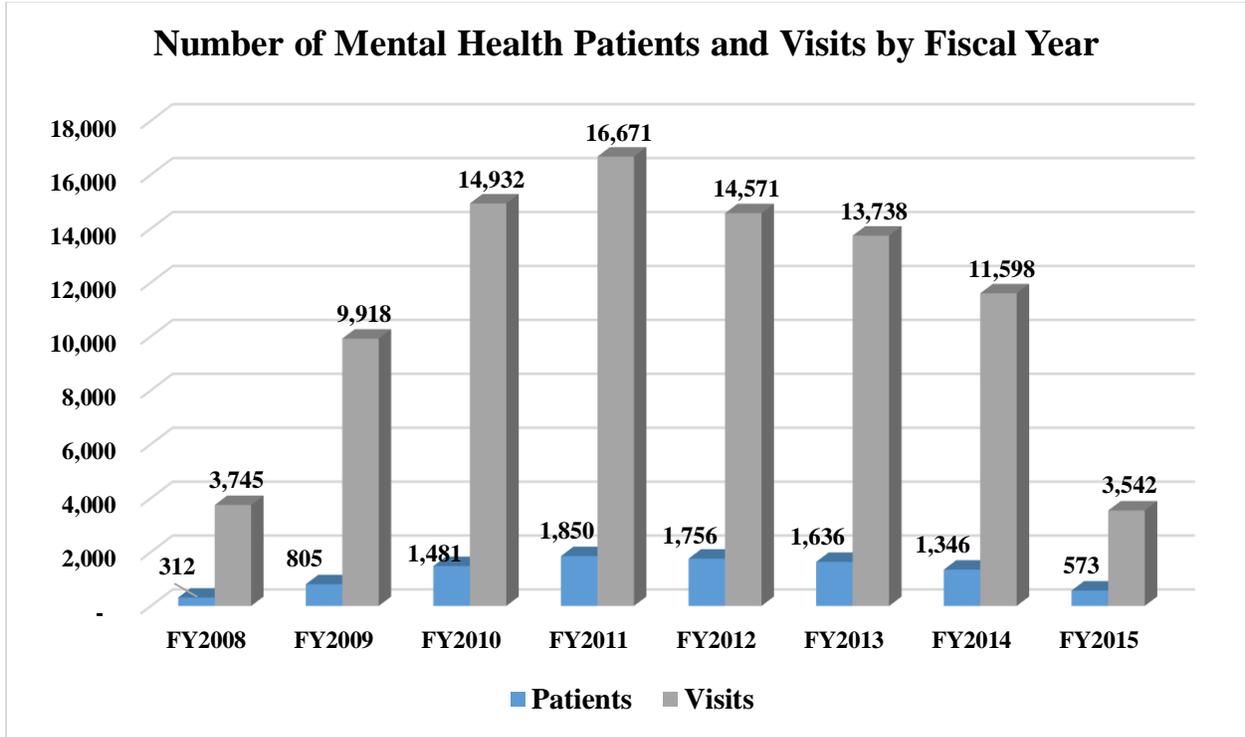
The top 5 offenses for those enrolled in the Medicaid program during FY2012–FY2015 were

1. Possession of 1 gram or less of meth or cocaine base—1st offense (5.7%)
2. 2nd Degree Burglary (5.0%)
3. Manufacturing, position of other substances with intent to distribute—1st offense (4.7%)
4. 3rd Degree Burglary (4.1%)
5. Assault and Battery of High and Aggravated Nature (4.0%).

Mental Health Results

Mental Health Patients and Visits by Fiscal Year

Of those closing FY2012–FY2015, there were 88,715 visits made through the Department of Mental Health (DMH) during FY2008–FY2015.

Number of Mental Health Patients and Visits by Fiscal Year

Fiscal Year	Patients	Visits
FY2008	312	3,745
FY2009	805	9,918
FY2010	1,481	14,932
FY2011	1,850	16,671
FY2012	1,756	14,571
FY2013	1,636	13,738
FY2014	1,346	11,598
FY2015	573	3,542

Mental Health Patients by County Size

About 80% of all patients seen were from the Big Four and Large Counties. On average, the top five counties with the highest percentage of mental health patients within the study population were Greenville (14.7%), Charleston (6.5%), Richland (8.3%), Spartanburg (6.2%), and Lexington (4.7%).

Percentage of Mental Health Patients by County Size

County Size	Percentage
BIG 4	37.18%
LARGE	43.27%
MEDIUM	12.82%
SMALL	5.77%
OTHER	0.96%
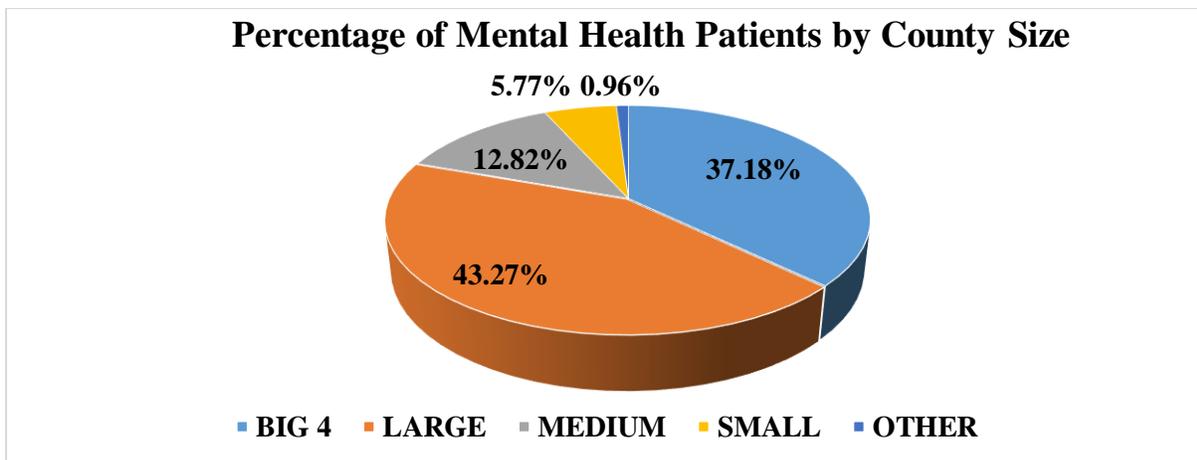
Mental Health Patients and Visits by Offense Keyword

Offenses were grouped into categories based on a keyword of the offense. The top five offense categories with the highest percentage of mental health patients were

1. Drug (16%)
2. Assault (16%)
3. Burglary (13%)
4. Larceny (6%)
5. Forgery (5%).

The top five offense categories with the highest percentage of mental health visits were

1. Assault (25%)
2. Burglary (12%)
3. Drug (11%)
4. Robbery (5%)
5. Larceny (4%).

Time Frame of First Visit

Over half of the study population (55%) was seen by DMH within 3 months of beginning supervision; 11% were seen 3–9 months of beginning supervision and 34% were seen 9 months or more after beginning supervision.

Time Frame of First Visit After Beginning Supervision

■ <3 months   ■ 3-6 months   ■ 6-9 months   ■ 9+ months
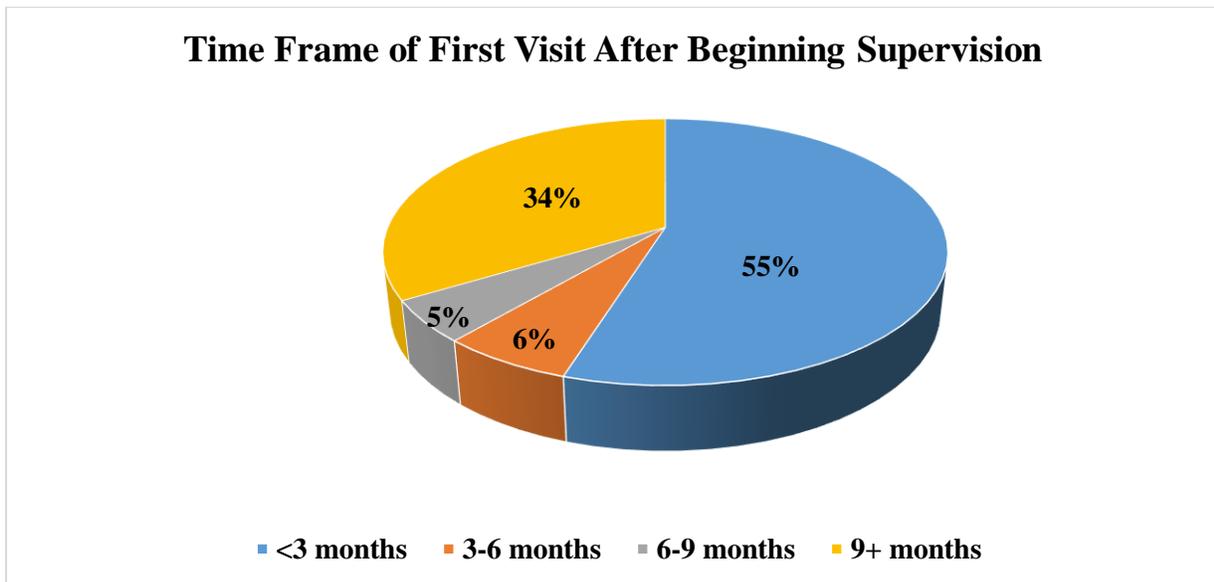
Total Number of DMH Visit (Per Patient)

A majority of the patients (51%) attended less than 10 visits while 30% attended 20 or more visits.

TOTAL NUMBER OF DMH VISITS (PER PATIENT)		
Number of Visits	**Sum of Patients**	**% Patients**
< 10 Visits	4,981	51%
10–20 Visits	1,813	19%
20+ Visits	2,965	30%
Grand Total	**9,759**	

Top 10 Primary Diagnoses (By Patients and Visits)

Of those closing FY2012–FY2015, the top 48 diagnoses for those seen by DMH during FY2008–FY2015 included 1,267 patients. The top 10 diagnoses for patients and the top diagnoses for those visits are shown below.

TOP 10 DIAGNOSES FOR PATIENTS	
DESCRIPTION	**PATIENTS**
RECURR DEPR PSYCHOS–MILD	50
PERSONALITY DISORDER NOS	49
BIPOL I CURR DEP W/O PSY	48
COCAINE DEPEND–UNSPEC	47
IMPULSE CONTROL DIS NOS	46
AGORAPHOBIA W PANIC DIS	45
PANIC DIS W/O AGORPHOBIA	44
BIPOL I CURRNT MIXED–MOD	43
BIPOL I CUR MIX W/O PSY	42
DEPRESSIVE PSYCHOSIS–MOD	41

| TOP 10 DIAGNOSES FOR VISITS	
DESCRIPTION	**VISITS**
SCHIZOAFFECTIVE DIS NOS	14480
PARANOID SCHIZO–UNSPEC	14355
PSYCHOSIS NOS	5511
SCHIZOPHRENIA NOS–UNSPEC	5292
EPISODIC MOOD DISORD NOS	4468
BIPOLAR DISORDER NOS	3039
POSTTRAUMATIC STRESS DIS	2804
RECURR DEPR PSYCHOS–MOD	2790
RECURR DEPR PSYCHOS–UNSP	2399
REC DEPR PSYCH–PSYCHOTIC	2239

Dispositions from DMH Outpatient Services

Of those closing FY2012–FY2015, there was 3,944 patients disposed during FY2008–FY2015. Fifty-nine (59%) percent of dispositions resulted in no additional referral while 2% were released to law enforcement. The top 10 disposition descriptions are listed below.

Disposition Description	Number of Patients
No Referral	2,311
Other	242
Drug/Alcohol	197
MHC-Pee Dee	150
Released to Self	133
Private Psychiatrist	121
MHC-Santee-Wateree	101
Law Enforcement	91
Family/Friends	56
MHC—Anderson/Oconee/Pickens	51

SNAP and TANF Assistance Results

SNAP or TANF Benefits by Residence County (by Fiscal Year)

Of those closing FY2011–FY2015, 31%–41% offenders were receiving SNAP or TANF benefits each year. The table and chart below shows the percentage of offenders receiving benefits by county size. Individual offenders could be receiving benefits throughout multiple fiscal years.

Percentage of SNAP or TANF Recipients by County Size
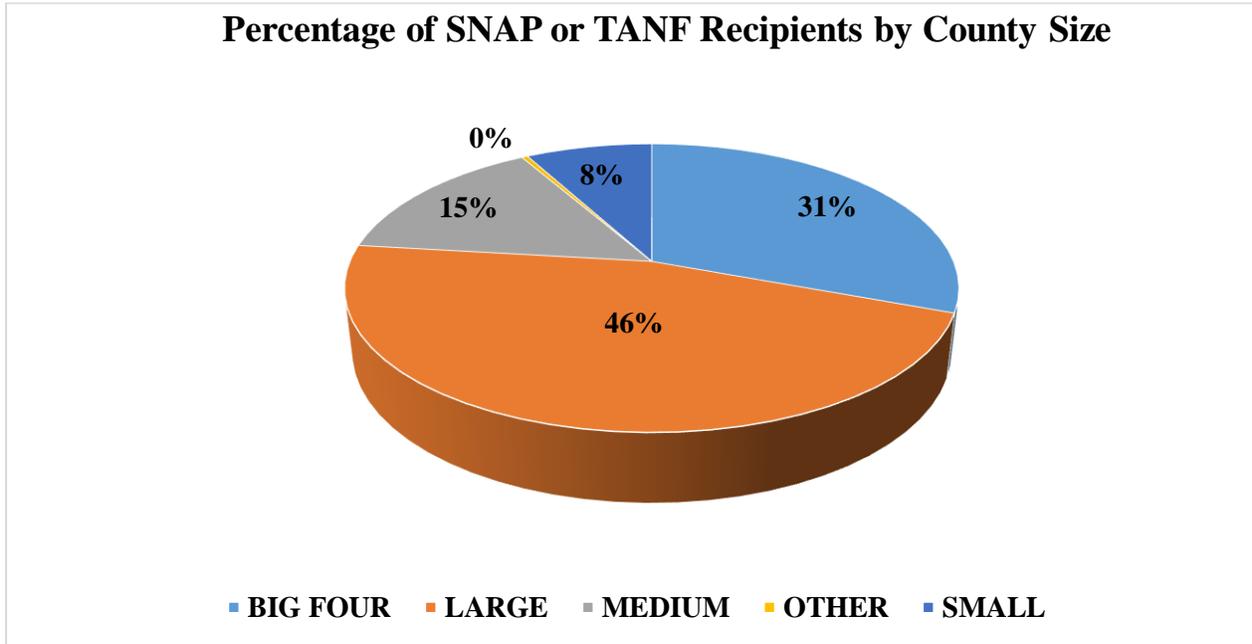
County Size	FY2011	FY2012	FY2013	FY2014	FY2015
BIG FOUR	9,293	9,515	9,651	8,928	7,750
LARGE	14,501	14,860	14,352	13,107	11,268
MEDIUM	4,583	4,689	4,584	4,261	3,699
SMALL	2,439	2,505	2,474	2,307	1,983
CENTRAL	170	138	101	81	64
Grand Total	**30,986**	**31,707**	**31,162**	**28,684**	**24,764**

SNAP or TANF Benefits by Offense Keyword (by Fiscal Year)

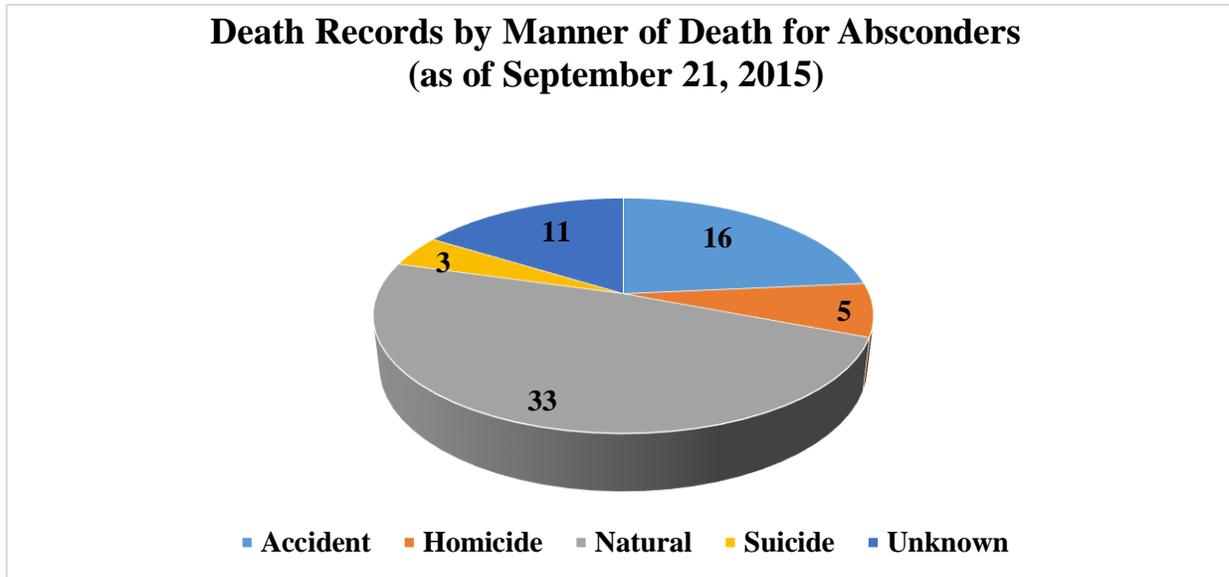At least 70% of all offenders receiving benefits each year committed offenses related to those listed below.

Top 10 Offenses for Offenders Receiving Benefits (by Offense Keyword)					
	FY2011	**FY2012**	**FY2013**	**FY2014**	**FY2015**
DRUGS	6,892	6,843	6,554	5,755	4,848
BURGLARY	3,736	3,899	3,801	3,459	2,928
ASSAULT	3,166	3,253	3,206	2,993	2,578
LARCENY	2,048	2,092	2,039	1,889	1,654
FORGERY	1,675	1,726	1,703	1,631	1,435
ROBBERY	1,101	1,160	1,194	1,128	918
FINANCIAL TRANSACTION CARD THEFT	971	1,020	1,017	971	867
DOMESTIC VIOLENCE	914	917	921	869	748
DUI	898	926	894	861	781
WEAPONS	837	856	821	715	591
	22,238	**22,692**	**22,150**	**20,271**	**17,348**

Offender Related Death Records Results
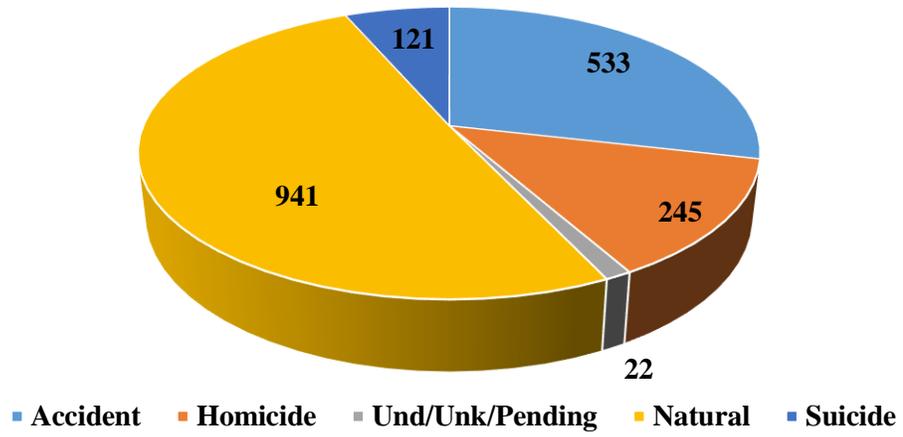
Absconded Population Deaths

'Absconders' refers to an offender under the Department's supervision who has fled from supervision, or who is otherwise absent without proper permission. An assumption can be made that some who are absconded may be deceased. As a result, death certificate data was linked with a list of absconders (as of September 21, 2015) to investigate this assumption. It was found that 68 of the 5,328 absconded offenders had death records. Details relating to the manner of death is depicted below. SCDPPPS will look to obtain the names of the deceased offenders in the future to correct its systems.

Closed Population Deaths

Death Records by Manner of Death for Absconders (as of September 21, 2015)

- 11
- 16
- 3
- 5
- 33

■ **Accident** ■ **Homicide** ■ **Natural** ■ **Suicide** ■ **Unknown**

Reporting cases resulting from death rather than being absconded or other reasons would result in reporting of more accurate data. Therefore, death certificate data was linked with a closure cohort to make sure closures due to death are accurate. FY2012–FY2015 included 78,681 offenders. According to SCDPPPS data, 1,229 (1.6%) closed due to death. However, linkage of death certificate records indicates 1,862 (2.4%) of the cohort died while under supervision. Details relating to the manner of death is shown below. SCDPPPS will look to obtain the names of the deceased offenders in the future to correct its systems.

**Death Records for Closures
Fiscal Years 2012–2015**

■ **Accident**　■ **Homicide**　■ **Und/Unk/Pending**　■ **Natural**　■ **Suicide**

Accident: 533
Homicide: 245
Und/Unk/Pending: 22
Natural: 941
Suicide: 121

Offender Related DJJ Records Results

Of those closing FY2012–FY2015, 6,901 (9%) had prior DJJ records from 1996 through July 2015. The table and chart below shows the percentage of offenders with prior DJJ records by county size.

PERCENT OF OFFENDERS WITH PRIOR DJJ RECORDS BY COUNTY SIZE

Legend: BIG FOUR · LARGE · MEDIUM · OTHER · SMALL

Values shown: 1%, 16%, 8%, 32%, 44%
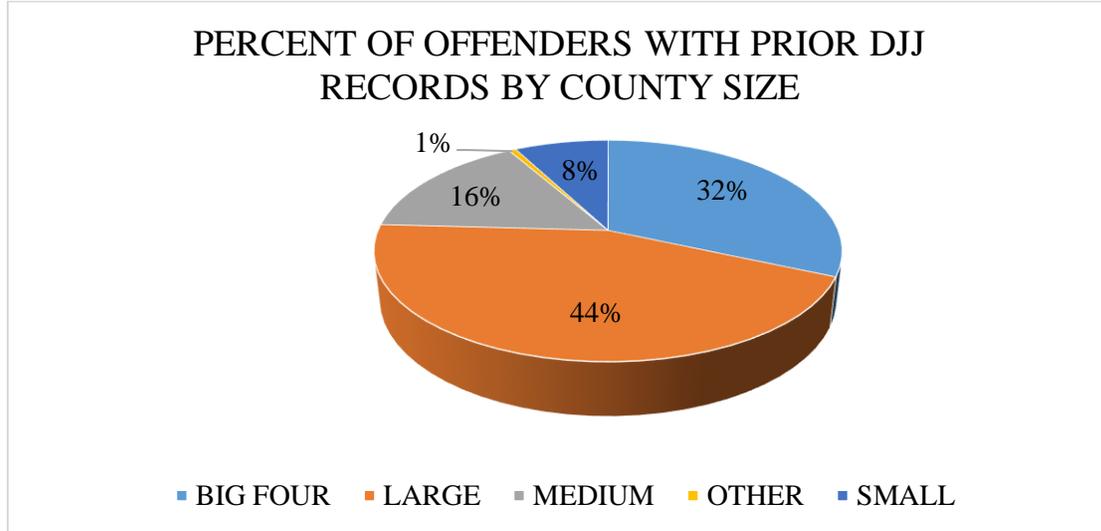
Offenders with Prior DJJ Records by Offense Keyword

Offenses were grouped into categories based on a keyword of the offense. The top five offense categories with the highest percentage of offenders with prior DJJ records were

1. Drug (24%)
2. Burglary (21%)
3. Assault (10%)
4. Larceny (8%)
5. Robbery (7%).

Offenders with Prior DJJ Records by DJJ Disposition Charge

The top five disposition charges for offenders with prior DJJ records were

1. Simple Assault & Battery (14%)
2. Assault & Battery of a High and Aggravated Nature (9%)
3. Contempt of Court by Child (9%)
4. Probation Order (6%)
5. Burglary (Non-Violent)—2nd Degree (5%).

Offenders with Prior DJJ Records by Drug & Substance Use

A majority of the offenders with prior DJJ records reported never using drugs or alcohol (54%) while about 12% reported casually using alcohol and drug and 4% were habitual alcohol and drug users. Fifteen percent (15%) reported substance abuse.

TYPE OF USE	# OF OFFENDERS	PERCENT
Alcohol and Drug use, Casual	764	11.86%
Alcohol and Drug use, Habitual	228	3.54%
Alcohol, Casual use, not at Arrest/Referral	169	2.62%
Alcohol, Habitual use, not at Arrest/Referral	18	0.28%
Alcohol, at time of Arrest/Referral	45	0.70%
Drug use, Casual, not at Arrest/Referral	1048	16.27%
Drug use, Habitual, not at Arrest/Referral	311	4.83%
Drug use, at time of Arrest/Referral	370	5.74%
Never used	3489	54.16%
TOTAL	**6442**	

SUBSTANCE ABUSE	# OF OFFENDERS	PERCENT
No	6021	84.89
Yes	1072	15.11
TOTAL	**7093**	

Offenders with Prior DJJ Records and Sex Offender Registry (SOR)

Less than 1% (61) of those with prior DJJ records were required to register as sex offenders. About half (52%) of those who were required to register as a sex offender were flagged as a sex offender by SCDPPPS.

SEX OFFENDER REGISTRY	# OF OFFENDERS	PERCENT
No	7032	99.14
Yes	61	0.86
TOTAL	**7093**	

	SEX OFFENDER REGISTRY		
SEX OFFENDER FLAG	**No**	**Yes**	**Total**
No	6969	29	6998
Yes	61	32	93
Total	7030	61	7091

Appendix. List of Counties by Size

Big Four	Large	Medium	Small	Other
Charleston	Aiken	Beaufort	Abbeville	Central Office
Richland	Anderson	Chester	Allendale	
Greenville	Berkeley	Clarendon	Bamberg	
Spartanburg	Cherokee	Colleton	Barnwell	
	Dorchester	Darlington	Calhoun	
	Florence	Edgefield	Chesterfield	
	Greenwood	Georgetown	Dillon	
	Horry	Jasper	Fairfield	
	Lancaster	Kershaw	Hampton	
	Laurens	Newberry	Lee	
	Lexington	Oconee	McCormick	
	Orangeburg	Union	Marion	
	Pickens	Williamsburg	Marlboro	
	Sumter		Saluda	
	York			