

The end of year report provides an update to the [2013 Annual Medical Marijuana Report](#) and is a condensed version. The end of year report provides information on qualifying patients, designated caregivers, and dispensary agents from January 1, 2013 to December 31, 2013. In addition, this year's report also contains medical marijuana transaction data for the same time-period. During this time the Arizona Department of Health Services (ADHS) received 46,501 qualifying patient applications, 1,581 caregiver applications and 1,324 dispensary agent applications. There were 44,675 active cardholders and of the 44,675 active cardholders, 43,148 (~96.6%) were qualifying patients, 554 (~1.2%) were designated caregivers and approximately, and 973 (~2.1%) were dispensary agents.

Approximately 70 percent of the qualifying patient cardholders in the Arizona Medical Marijuana Program were males ($n = 30,211$) and approximately 30 percent were females ($n = 12,937$). Approximately 71 percent ($n = 395$) of the designated caregivers were males and approximately 29 percent ($n = 159$) were females. On average, qualifying male patients were younger ($M = 42.77$ years; $SD = 15.41$ years) compared to female qualifying patients who were older ($M = 46.55$ years; $SD = 14.92$ years), and the age profile of the caregivers was similar to that of qualifying patients. During this time, approximately 15 percent of the qualifying patients ($n = 6,297$) and 70 percent of the designated caregivers were authorized to cultivate ($n = 390$). The Arizona Medical Marijuana Act (AMMA) also provides an option to the qualifying patients about receiving clinical trial notifications, and approximately 16 percent ($n = 6,708$) of the qualifying patients indicated interest in receiving clinical trial notifications.

The majority of the qualifying patients (~82%; $n = 35,203$) had one debilitating medical condition; approximately 16 percent ($n = 6,896$) had two debilitating medical conditions; and approximately two percent ($n = 1,049$) had three or more debilitating medical conditions. The top debilitating

Highlights

- ♣ End of Year Report time-period January 1st 2013 to December 31st 2013.
- ♣ 46,501 qualifying patient applications; 1,581 caregiver applications; 44,675 active cardholders; 43,148 qualifying patients (includes minor patients); 554 designated caregivers (CGs); 973 dispensary agents (DAs).
- ♣ ~70% of QPs were males; ~30% females; average age of a qualifying patient was 43.90 years ($SD = 15.37$ years).
- ♣ 6,297 (~15%) of QPs and 390 (~70%) of CGs were authorized to cultivate;
- ♣ "Severe and chronic pain" (~73%; $n = 31,400$) was the top debilitating medical condition.
- ♣ 33 cards were revoked including caregivers with multiple cards.
- ♣ 71 dispensaries were open and operational during the 2013 calendar year.
- ♣ During 2013, there were 422,495 transactions to 40,878 cardholders resulting in a sale of 95,263.09 ounces and/or 2,700.66 kg (i.e. 2.7 tons) of marijuana.

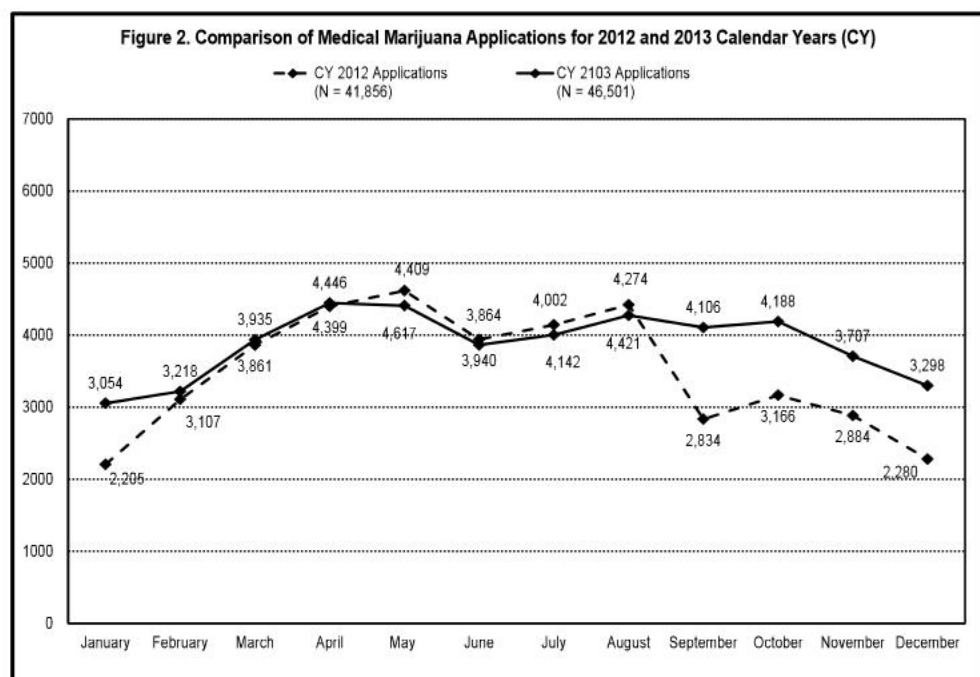
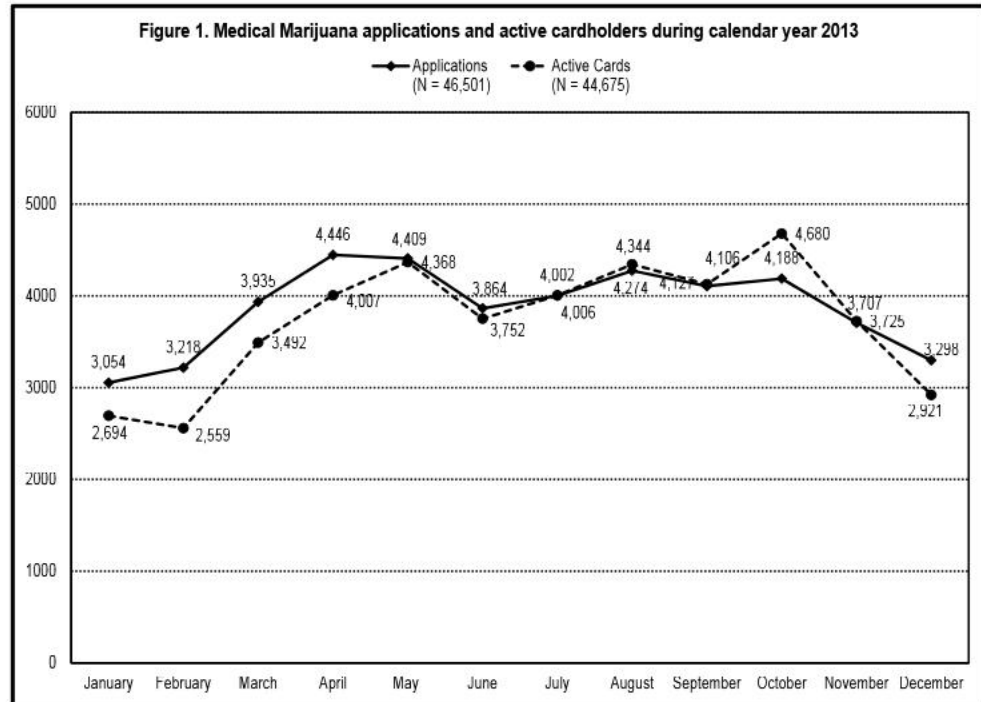
medical condition listed was "severe and chronic pain" (n = 31,400; ~73%).

During 2012, ADHS began the process of registering and licensing non-profit medical marijuana dispensaries. In calendar year 2013, there were 71 non-profit medical marijuana dispensaries licensed. At the time of this report, there were 973 dispensary agents (DA) of which, approximately 68 percent (n = 658) were male dispensary agents, and approximately 32 percent (n = 315) were female dispensary agents. The average age of a dispensary agent was 38 years \pm 13 years.

Thirty-three cards including caregivers with multiple cards were revoked during this time-period.

Figure 1 displays medical marijuana applications and active cardholders during the calendar year 2013. It is evident there is considerable variation on a month-to-month basis and both applications and cardholders were at the peak in May and August of 2013. In general, the medical marijuana applications as well as number of active cardholders on a monthly basis seem to be declining.

Figure 2 compares data from 2012 and 2013 calendar years to see any similarities in seasonal variation of medical marijuana applications. There was an 11 percent increase in the total number of applications from calendar year 2012. The increase is



perhaps attributable to opening of several dispensaries.

Table 1 provides an overview of 2013 calendar year applications and counts of active cardholders by entity type (i.e. whether an individual is a qualifying patient, minor, designated caregiver, and dispensary agent, etc.).

Entity type	Applications		Active Cardholders	
	Counts	Percent	Counts	Percent
Caregivers	1,523	3.1%	498	1.1%
Caregivers for Minors	58	0.1%	56	0.1%
Dispensary Agents	1,324	2.7%	973	2.2%
Qualifying Patients	46,443	94.0%	43,092	96.5%
Qualifying Patients (Minors)	58	0.1%	56	0.1%
Totals	49,406	100.0%	44,675	100.0%

In calendar year 2013, the majority of the medical marijuana cardholders (~97%) were qualifying patients and slightly over two percent were dispensary agents. Compared to 2012 calendar year, there were fewer designated caregiver applications, and a higher number of dispensary agent applications. For instance, there was approximately a 25 percent increase in the total number of qualifying patient cardholders from 2012 calendar year, while there was a 35 percent decline in the number of designated caregivers from last year. Starting in September of 2012, many cardholders also applied to be dispensary agents. At the end of the 2013 calendar year, there were 973 dispensary agents. There was a seven-fold increase in the number of dispensary agents from last year.

Table 2 provides an overview of the active cardholders by gender, age, and entity type (i.e., qualifying patients and/or designated caregiver).

Age groups	Qualifying Patients		Caregivers	
	Female	Males	Female	Male
<18 years	14 (0.1%)	42 (0.1%)	NA	NA
18-30 years	2359 (18.2%)	8238 (27.3%)	16 (10.1%)	97 (24.6%)
31-40 years	2305 (17.8%)	6268 (20.7%)	53 (33.3%)	120 (30.4%)
41-50 years	2389 (18.5%)	4977 (16.5%)	37 (23.3%)	73 (18.5%)
51-60 years	3488 (27.0%)	5877 (19.5%)	39 (24.5%)	59 (14.9%)
61-70 years	1892 (14.6%)	4057 (13.4%)	11 (6.9%)	41 (10.4%)
71-80 years	372 (2.9%)	655 (2.2%)	3 (1.9%)	4 (1.0%)
81+ years	118 (0.9%)	97 (0.3%)	0 (0.0%)	1 (0.1%)
State Totals	12937 (30.0%)	30211 (70.0%)	159 (28.7%)	395 (71.3%)
Mean (SD)*	46.5 (14.9)	42.7 (15.4)	44.1 (11.8)	41.0 (13.4)
Note: An individual can be a qualifying patient and/or a designated caregiver				
*Average age of qualifying patients and caregivers was significantly higher for females compared to males.				

Irrespective of whether the cardholder was a qualifying patient, and/or a designated caregiver, they were more likely to be males. The average age of a female qualifying patient was 46 years and 44 years for a designated caregiver, while that of a male was 43 years and 41 years respectively. As evident, female qualifying patients and designated caregivers were more likely to be older compared to males.

Table 3 provides an overview of the medical marijuana qualifying patients and designated caregiver cardholders by applicant's county of residence. On average, in Arizona there were six qualifying patients per 1000 residents in 2013. Yavapai (14.0 per 1000 residents), Gila (12.6 per 1000 residents), Coconino (11.7 per 1000 residents), and Mohave County (10.6 per 1000 residents), had the highest number of qualifying patients per 1000 residents based on 2013 population estimates. Of the 43,148 qualifying patient cardholders, approximately 15 percent (n = 6,297) were authorized to cultivate.

Table 3. Distribution of Medical Marijuana Qualified Patients and Caregivers by County						
County	Qualified Patients			Designated Caregivers		
	Counts	Percent	Rate per 1000 residents	Counts	Percent	Rate per 1000 residents
Apache	338	0.8%	4.7	<=5	-	NA
Cochise	712	1.7%	5.4	<=5	-	NA
Coconino	1,589	3.7%	11.7	32	5.8%	0.24
Gila	676	1.6%	12.6	10	1.8%	0.19
Graham	278	0.6%	7.4	7	1.3%	0.19
Greenlee	64	0.1%	7.5	0	0.0%	0.00
La Paz	145	0.3%	6.9	<=5	-	NA
Maricopa	25,407	58.9%	6.5	317	57.2%	0.08
Mohave	2,175	5.0%	10.6	20	3.6%	0.10
Navajo	889	2.1%	8.2	19	3.4%	0.17
Pima	5,082	11.8%	5.1	64	11.6%	0.06
Pinal	1,973	4.6%	5.0	23	4.2%	0.06
Santa Cruz	204	0.5%	4.1	<=5	-	NA
Yavapai	2,995	6.9%	14.0	48	8.7%	0.23
Yuma	578	1.3%	2.8	<=5	-	NA
Unknown	43	0.1%	NA	0	0	NA
State Totals	43,148	100%	6.57	554	100%	0.08
Note: 2013 Arizona Population estimated 6,572,000 as per State Demographer Projections (see: Medium Series http://www.workforce.az.gov/population-projections.aspx)						

Table 4 provides an overview of the qualifying patients and designated caregivers by county of residence that were authorized to cultivate medical marijuana. On average in Arizona, approximately one qualifying patients per 1000 residents was authorized to cultivate marijuana.

Gila (6.2 per 1000 residents), Navajo (5.2 per 1000 residents), Mohave (4.9 per 1000 residents), Greenlee (4.8 per 1000 residents) and Yavapai County (4.6 per 1000 residents), had the highest number of qualifying patients authorized to cultivate.

Table 4. Cultivation Status of Medical Marijuana Qualified Patients and Caregivers by County						
County	Qualified Patients			Designated Caregivers		
	Counts	Percent	Rate per 1000 residents	Counts	Percent	Rate per 1000 residents
Apache	193	3.1%	2.7	<=5	-	NA
Cochise	163	2.6%	1.2	<=5	-	NA
Coconino	431	6.8%	3.2	26	6.7%	0.2
Gila	331	5.3%	6.2	8	2.1%	0.1
Graham	171	2.7%	4.5	6	1.5%	0.0
Greenlee	41	0.7%	4.8	0	0.0%	0.0
La Paz	76	1.2%	3.6	<=5	-	NA
Maricopa	1,251	19.9%	0.3	203	52.1%	0.1
Mohave	1001	15.9%	4.9	18	4.6%	0.1
Navajo	569	9.0%	5.2	18	4.6%	0.2
Pima	83	1.3%	0.1	49	12.6%	0.0
Pinal	620	9.8%	1.6	15	3.8%	0.0
Santa Cruz	69	1.1%	1.4	<=5	-	NA
Yavapai	987	15.7%	4.6	37	9.5%	0.2
Yuma	307	4.9%	1.5	0	-	NA
Unknown	4	0.1%	NA	0	0.0%	0.0
State Totals	6,297	100%	0.96	390	100%	0.06
Note: 2013 Arizona Population estimated 6,498,600 as per State Demographer Projections (see: Medium Series http://www.workforce.az.gov/population-projections.aspx)						

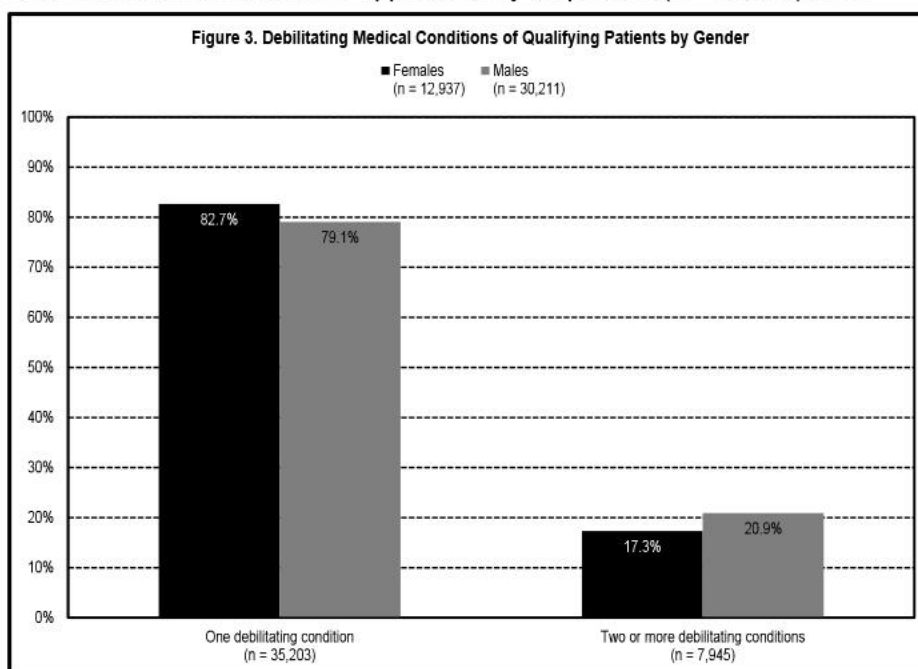
As per AMMA requirements, ADHS collects information on 13 debilitating medical conditions and recommending physicians can select more than one of these 13 conditions.

Table 5 provides an overview of the unique debilitating medical conditions of the qualifying patients during calendar 2013. During this time-period, the majority of the QPs (n = 35,203; ~82%) had one unique qualifying debilitating medical condition, followed by approximately 16% (n = 6,896) having two conditions, and approximately 2% (n = 1,049) having three or more conditions. By way of comparison, approximately 73% of the qualifying patients (n = 31,400) indicated "severe and chronic pain"

as the only debilitating medical condition while other top unique debilitating medical conditions included Cancer (n = 1,027; ~2.4%), Hepatitis C (n = 656; ~1.5%), and muscle spasms (n = 503; ~1.2%). Severe and chronic pain in itself and/or in combination accounted for approximately 90 percent (n = 38,851) of all debilitating conditions and approximately one percent of the qualifying patients had multiple debilitating conditions without any mention of severe and chronic pain.

Figure 3 displays debilitating medical conditions of qualifying patients by a patient's gender. In general, females (~21%) were more likely to report two or more debilitating conditions

Table 5. Nature of Debilitating Conditions during calendar year 2013		
Nature of Debilitating Conditions	Qualifying Patients	
	Count	Percent
Unique conditions[†]	35,203	81.6%
Cancer	1,027	2.4%
Hep C	656	1.5%
Cachexia	41	0.1%
Seizures	322	0.7%
Glaucoma	393	0.9%
Sclerosis	13	0.0%
Alzheimers	12	0.0%
Severe and chronic Pain	31,400	72.8%
Muscle Spasms	503	1.2%
HIV/AIDS	245	0.6%
Crohns Disease	209	0.5%
Nausea	382	0.9%
Multiple conditions[‡]	7,945	18.4%
Severe and chronic pain with mention of one other debilitating condition	6,466	15.0%
Severe and chronic pain with mention of two other debilitating conditions	872	2.0%
Severe and chronic pain with mention of three or more other debilitating conditions	113	0.3%
Multiple conditions without mention of severe and chronic pain	494	1.1%
State Totals	43,148	100%
[†] Conditions are unique as in, of the 43,148 qualifying patients 1,027 indicated cancer as the only debilitating medical condition.		
[‡] Multiple conditions are two or more conditions specified by a qualified patient as in, of the 43,148 qualifying patients 7,945 indicated having at least two or more of the listed debilitating conditions.		



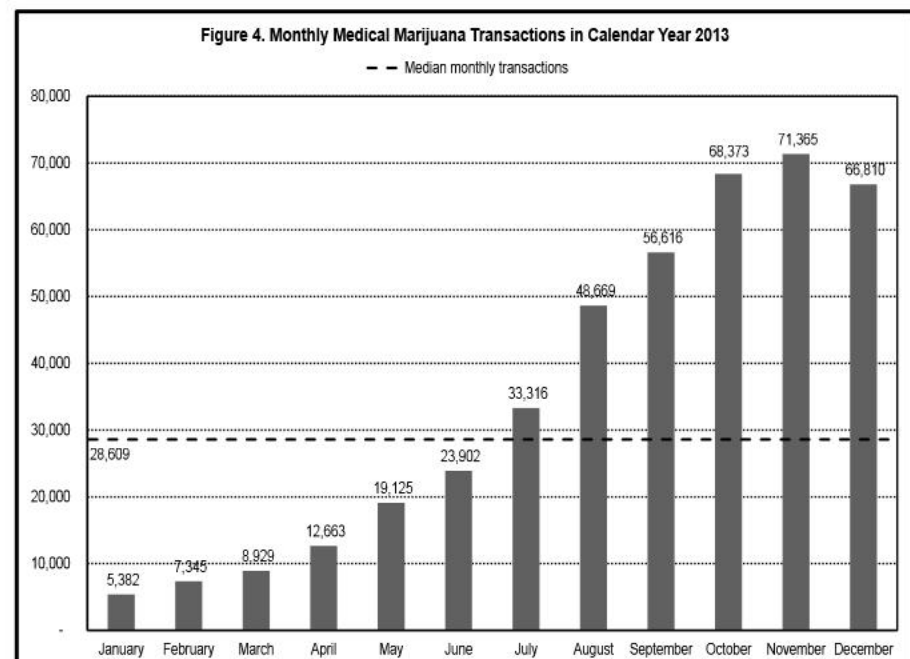
compared to males (~17%), and this difference was statistically significant.

Table 6 gives an overview of the debilitating conditions for minor qualifying patients (i.e. <18 years of age) during calendar year 2013. Of the 56 minor qualifying patients, 44 (~79%) had one unique debilitating condition and 12 (~21%) indicated two or more debilitating conditions. The top unique debilitating condition reported by a qualifying minor patient was "severe and chronic pain" (n = 22; ~40%) followed by seizures (n = 15; ~27%).

The AMMA also has a provision for individual qualifying patients to be notified of any clinical studies on a voluntary basis. During this time period, approximately 6,708 (~16%) qualifying patients elected to receive voluntary clinical trial notifications. Females were more likely (~18%) to elect for receiving clinical trial notifications compared to males (~15%), and this difference was statistically significant.

Figure 4 provides information on the monthly transactions in 2013 calendar year. The AMMA allows qualifying patients to possess up to 2.5

Table 6. Debilitating Medical Conditions for Minor Qualifying Patients		
Nature of Debilitating Condition	Minor Qualifying Patients (<18 years)	
	Count	Percent
Unique conditions[†]	44	78.6%
Cancer	<=5	-
Hepatitis C	0	0.0%
Cachexia	0	0.0%
Seizures	15	26.8%
Glaucoma	0	0.0%
Sclerosis	0	0.0%
Alzheimers	0	0.0%
Severe and chronic pain	22	39.3%
Muscle spasms	<=5	-
HIV/AIDS	0	0.0%
Crohn's disease	0	0.0%
Nausea	0	0.0%
Multiple conditions[‡]	12	21.4%
Severe and chronic pain with mention of one other debilitating condition	7	12.5%
Severe and chronic pain with mention of two other debilitating condition	5	8.9%
State Totals	56	100%
[†] Conditions are unique as in, of the 56 minor qualifying patients 22 indicated "severe and chronic pain" as the only debilitating medical condition.		
[‡] Multiple conditions are two or more conditions specified by a qualified patient as in, of the 56 minor qualifying patients 12 indicated having at least two or more of the listed debilitating conditions.		



ounces of marijuana every two weeks. There were 422,495 transactions to 40,878 cardholders that resulted in a sale of 95,263.09 ounces and/or 2,700.66 kg (i.e. 2.7 tons) of marijuana. The estimated store price of \$350 an ounce resulted in approximately 33 million in yearly revenue.

Figure 5 provides overall transactions by weekday. As anticipated, during the 2013 calendar year, Fridays and Saturdays have the highest overall number of transactions.

During the 2013 calendar year, a monthly average amount of 7,938.59 ounces of marijuana ($mdn = 6,405.28$; 181 kg) was sold. On average a qualifying patient had 10 transactions ($mdn = 5$)

during the entire year ranging from a minimum of one transaction to a maximum of 314 transactions. Five dispensaries accounted for 40 percent of the total marijuana sold (154,187 transactions resulting in 1,088 kilograms) in Arizona.

Table 7 provides an overview of the transactions and amount by age group. As evident, 18-30 year olds had the highest number of transactions followed by 31-40 year olds, and 51-60 year olds.

Appendix A and B provide an overview of the number of qualifying patients and caregivers by community health analysis areas (CHAAs). Appendix C provides an overview of the dispensaries and the 25-mile radius.

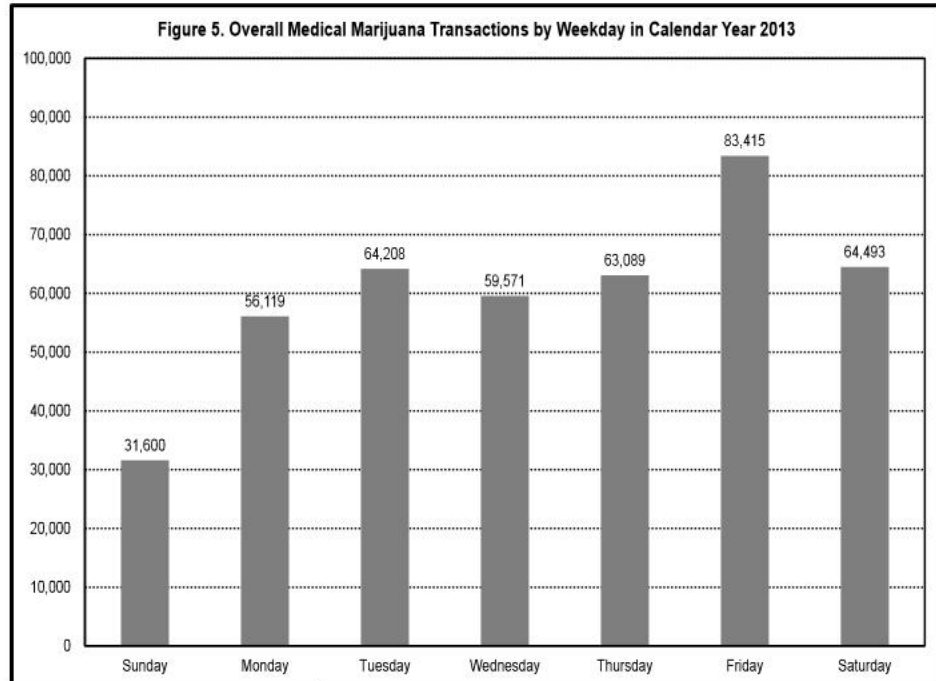


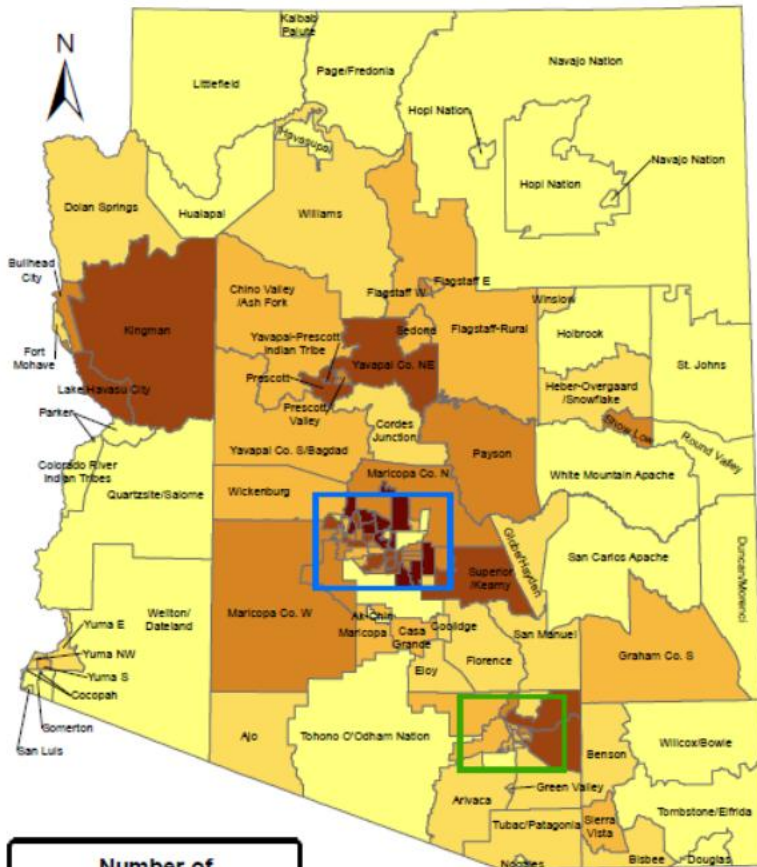
Table 7. Medical Marijuana Transactions and Amount by Age-Group[¶]

Age-groups	# of Transactions	Amount (kgs)
<18 years	694	3.93
18-30 years	133,437	702.45
31-40 years	97,144	581.57
41-50 years	74,648	502.20
51-60 years	77,368	586.69
61-70 years	35,299	294.01
71-80 years	3,276	24.79
81+ years	629	5.03
Total	422,495	2,700.66

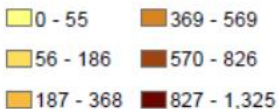
[¶]Age-groups are estimated based on the original creation date of the application. For example, there 133,437 total transactions in 2013 for 18-30 year olds resulting in a sale of approximately 700 kilograms of marijuana.

Appendix A

Medical Marijuana Qualifying Patient Cardholders, by CHAA



Number of Cardholders

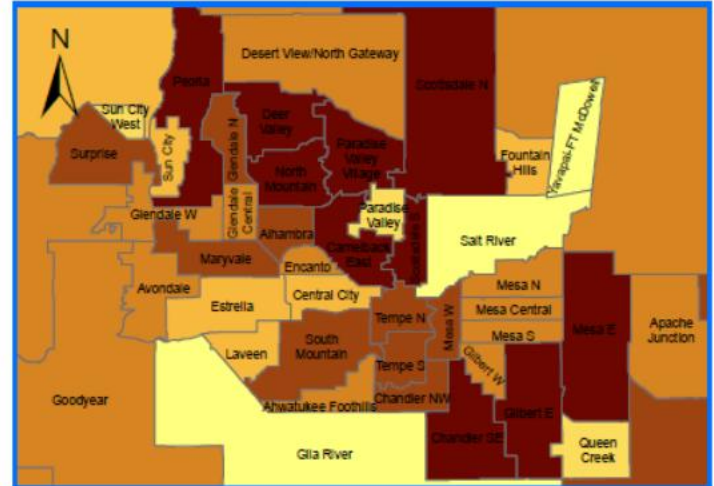


Note: ~5% of patient addresses are under review for spatial precision

Arizona Department of Health Services

Map Date: 12/31/2013

Metro Phoenix

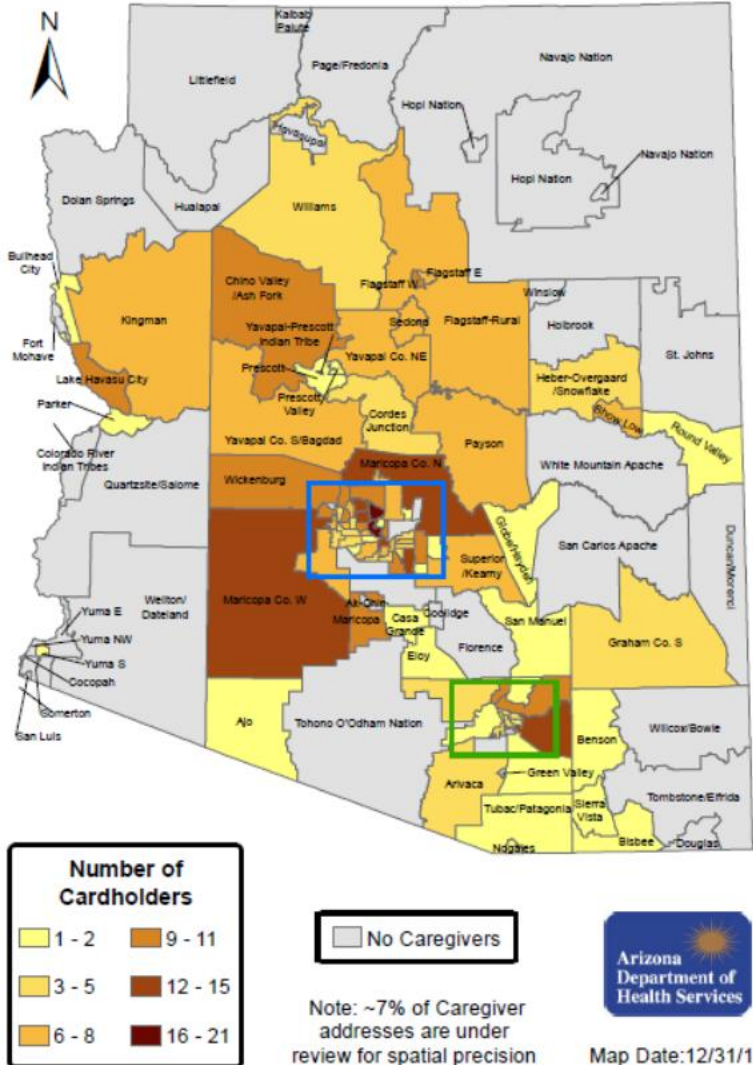


Metro Tucson

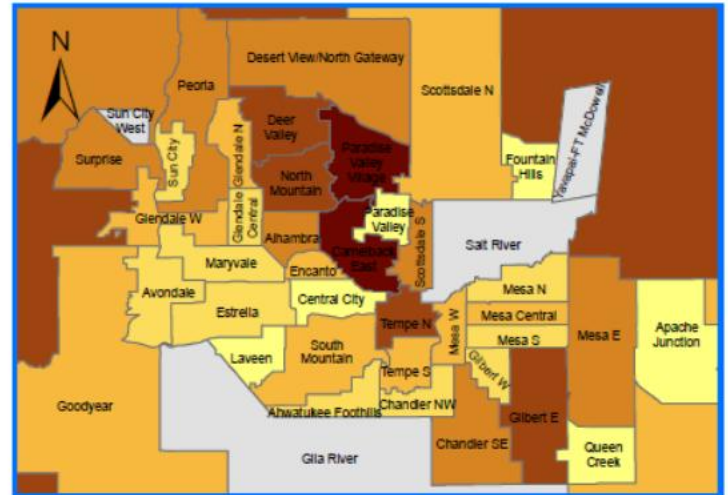


Appendix B

Medical Marijuana Caregiver Cardholders, by CHAA



Metro Phoenix



Metro Tucson



Appendix C

