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Medical Marijuana  
Annual Report A.R.S.  
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*Health and Wellness for all Arizonans*

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State of Arizona

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### **MISSION**

To promote, protect, and improve the health and wellness of individuals and communities in Arizona.

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# Table of Contents

	Page
Executive Summary .....	1
1. Introduction .....	2
1.1 Arizona Medical Marijuana Timeline and Passage of Proposition .....	2
1.2 Overview of the Arizona Medical Marijuana Program Components .....	2
2. Methodology .....	11
2.1 Data Sources .....	11
2.2 Measures .....	11
2.3 Analytic Procedures .....	12
3. Results .....	13
3.1 Characteristics of Qualifying Patients and Designated Caregivers .....	15
3.2 Nature of Debilitating Medical Conditions among Qualifying Patients .....	19
3.3 Registry Identification Card(s) Revoked .....	26
3.4 Characteristics of Physicians Providing Written Certifications .....	26
3.5 Registered Non-Profit Medical Marijuana Dispensaries .....	29
3.6 Non-Profit Medical Marijuana Dispensary Agents .....	29
4. Discussion .....	30
Appendices	
A. Arizona Medical Marijuana Program Statutes and Rules .....	31
B. Areas Within 25 Miles of an Operating Medical Marijuana Dispensary .....	32
C. Dispensary Status by Community Health Analysis Area (CHAA) .....	33
End Notes .....	34

## List of Tables

	Page
1. Distribution of inspection type(s) among facility type .....	7
2. Medical marijuana fund revenues, expenditures, and fund balance in SFY 15.....	10
3. Demographic characteristics of qualifying patients and designated caregivers .....	15
4. Arizona medical marijuana qualifying patients, designated caregivers, and the qualifying patient cultivation status by county of residence .....	18
5. Arizona medical marijuana dispensary agents by county .....	19
6. Reported debilitating medical conditions for qualifying patients of medical marijuana .....	20
7. Debilitating medical conditions for qualifying patients who are minors.....	25
8. Characteristics of physician certifications by type/specialization .....	27
9. Debilitating medical conditions by recommending physician type .....	29

## List of Figures

	<b>Page</b>
1. Distribution of noncompliance items during compliance inspections by category ....	8
2. Arizona Medical Marijuana qualifying patient monthly applications for the past four SFYs .....	13
3. Arizona Medical Marijuana designated caregiver monthly applications for the past four SFYs .....	14
4. Arizona Medical Marijuana qualifying patients' and designated caregivers' cultivation status by gender .....	16
5. Arizona Differences in cultivation status for qualifying patients and designated caregivers for the past four SFYs.....	17
6. Debilitating medical conditions by age of the qualifying patient .....	22
7. Debilitating medical conditions by gender of the qualifying patient.....	23
8. Debilitating medical condition with and without mention of severe and chronic pain	24
9. Most frequent recommending physicians by licensing board .....	28

# Executive Summary

As required by Arizona Revised Statutes (A.R.S.) § 36-2809, the Arizona Department of Health Services (ADHS) has completed the annual statistical report for the Arizona Medical Marijuana Program. ADHS, in conjunction with the University of Arizona Mel & Enid Zuckerman College of Public Health, prepared this report.

In November 2010, Arizona voters passed a ballot initiative making Arizona the fourteenth state to adopt a medical marijuana law. As of June 30, 2015, 23 states and the District of Columbia have medical marijuana programs. Eleven have been by ballot initiatives similar to Arizona, and 12 have been through legislative action not requiring voter approval. Since the Arizona Medical Marijuana Program went into effect on April 14, 2011, the goal of ADHS has been to ensure the development and administration of the pre-eminent program in the country for medical use of marijuana.

During state fiscal year July 1, 2014 to June 30, 2015:

- There were a total of 80,756 active cardholders, which included 77,639 qualifying patients, 705 caregivers, and 2,412 dispensary agents. Of the total qualifying patients, approximately 34% (n = 26,091) were female qualifying patients, and of the total caregivers, 33% (n = 233) were female caregivers.
- Approximately 2.4% (n = 1,864) of QPs and CGs were authorized to cultivate.
- The number of qualifying patients per 1,000 residents were highest in Yavapai County (20.6), followed by Gila County (18.5) and Coconino County (17.1). Yuma (4.5), Santa Cruz (5.7), and Graham (7.7) Counties had the lowest number of qualifying patients per 1,000 residents.
- The number of qualifying patients who are minors (i.e., <18 years of age) increased by 39% from 92 qualifying patients in 2014 state fiscal year (i.e., July 1, 2013 to June 30, 2014) to 128 qualifying patients in the current reporting period (i.e., July 1, 2014 to June 30, 2015).
- In contrast to prior years, the majority of the qualifying patients (n = 46,896; ~60%) had two or more debilitating medical conditions. The remaining 40% reported one unique condition. Approximately one-third of the qualifying patients (n = 25,705) indicated “severe and chronic pain” as their only debilitating medical condition.
- Seven hundred fourteen physicians provided certifications to 77,639 patients during this time period. Twenty-five physicians certified approximately 63% of the patients.
- Forty-eight Approval to Operate inspections were conducted to medical marijuana dispensaries and cultivation sites.

# Introduction

## 1.1 Arizona Medical Marijuana Timeline and Passage of Proposition

In November 2010, voters passed the [Arizona Medical Marijuana Act \(AMMA\)](#). The citizen initiative (Proposition 203) required the Arizona Department of Health Services (ADHS) to create a medical marijuana program within 120 days from the certification date of official election results. The goal was to create the first truly medical marijuana program in the country. Staff from across the Department joined together to create a plan. The challenging undertaking included Information Technology systems for applications, reporting, and validating. Staff combed through the rules in other states to help write the Arizona rules for how the program would work, how Arizona residents could apply for the different types of licenses, when they could apply, and how to add new debilitating diseases, among other important elements. Even though the initiative allowed ADHS to forgo the normal rulemaking process, staff asked twice for written public comment and held four public hearings to gather public input. On December 17, 2010, ADHS posted the medical marijuana informal draft rules for public comment and received comments via an online survey during the comment period from December 17, 2010 to January 7, 2011.<sup>1</sup> On January 31, 2011, ADHS posted the official medical marijuana draft rules for public comment, and received comments via an online survey during the comment period from January 31 to February 18, 2011. ADHS also received comments at four public meetings held during February 14 to 17, 2011.

## 1.2 Overview of the Arizona Medical Marijuana Program Components

### *Licensing Authority*

The AMMA designates ADHS as the licensing authority for the Arizona Medical Marijuana Program. Along with developing the rules and administrative components for the program, ADHS is responsible for issuing Registry Identification Cards for qualifying patients (QPs), designated caregivers (CGs), and dispensary agents (DAs) and for selecting, registering, and providing oversight for nonprofit medical marijuana dispensaries. See Appendix A for reference to the [Arizona Administrative Code](#) (A.A.C.) and specific time frames for components of the program.

### *Qualifying Patient Applications for Registry Identification Cards*

[Qualifying patients](#) began applying for Registry Identification Cards on April 14, 2011. For a QP to be eligible to possess and purchase marijuana for medical use under Arizona law, they must possess a Registry Identification Card. Registry Identification Cards expire each year, and the

QP must be re-evaluated by a physician and submit applications yearly using the ADHS online application system. Applicants must provide:

- Personal demographic information
- Designated Caregiver (CG) information (if the applicant designates a CG)
- The certifying physician's information
- An attestation pledging not to divert marijuana and that the information submitted is true and correct
- An identification document (Arizona Driver's License, Arizona Identification Card, Arizona Registry Identification Card, U.S. Passport Page)
- A current photograph
- Physician Certification
- Documentation for Supplemental Nutrition Assistance Program (SNAP) (if claiming SNAP eligible)
- The application fee

#### Patient ID Card and Security Features



#### Color Bar Identifier

As of May 8, 2013, ADHS began printing ID cards with colored bar identifiers as follows:

Qualifying Patient – Yellow  
Designated Caregiver – Red  
Dispensary Agent – Blue

**NOTE:** Cards issued prior to May 8, 2013 will not have the color bar identifier.

#### Ultraviolet Security Image

Under a black light, the ADHS logo (without the copper sunburst) is revealed in the center of the card.

#### Clear Laminate Hologram

The words "Arizona Medical Marijuana Program" are printed across the card on three separate lines within the clear laminate—once across the top, middle, and bottom of the card.

### *Authorization to Cultivate*

During the application process, the QP can request to cultivate marijuana plants for the QP's own medical use. Qualifying patients may be authorized to cultivate if they live farther than 25 miles from the nearest operating dispensary. The first dispensary opened in Arizona on December 6, 2012. Prior to this first dispensary opening, any QP who requested to cultivate was granted the authorization to cultivate. When QPs apply or renew the Registry Identification Card now, the residential address is checked and mapped to determine if the address is located within a 25-mile



radius of an operating dispensary. If the address is located within this radius, the QP will not be granted the authorization to cultivate. Appendix B depicts the number of open and operating dispensaries by June 30, 2015 and the 25-mile radius cultivation restriction for qualifying patients (and subsequently, designated caregivers).

### *Debilitating Medical Conditions*

Debilitating medical conditions for use of medical marijuana in Arizona are the following: cancer, glaucoma, HIV, AIDS, Hepatitis C, Amyotrophic Lateral Sclerosis, Crohn's disease, agitation of Alzheimer's disease, or a chronic or debilitating disease or medical condition (or the treatment of such a condition) that causes cachexia or wasting syndrome, severe and chronic pain, severe nausea, seizures (including those characteristic of epilepsy), severe or persistent muscle spasms (including those characteristic of multiple sclerosis), or a debilitating medical condition or treatment approved by ADHS under A.R.S. §36-2801.01 and A.A.C. R9-17-106.



Pursuant to A.A.C. R9-17-106, ADHS accepts petitions to [add a debilitating medical condition](#) to the list of debilitating medical conditions for the Medical Marijuana Program in January and July of each year.

In July 2014, ADHS approved adding Post Traumatic Stress Disorder (PTSD) to the list of debilitating medical conditions. Effective January 1, 2015, palliative care of PTSD (not treatment) is a recognized debilitating medical condition.

### *Physicians*

As part of the application for a QP Registry Identification Card, an individual must have a written certification from a physician making or confirming a diagnosis of a debilitating medical condition(s). Allowable certifying physicians include:

- A doctor of medicine (Allopathic Physician) who holds a valid and existing license to practice medicine, pursuant to Title 32, Chapter 13 or its successor
- A doctor of osteopathic medicine who holds a valid and existing license to practice osteopathic medicine pursuant to Title 32, Chapter 17 or its successor
- A naturopathic physician who holds a valid and existing license to practice naturopathic medicine pursuant to Title 32, Chapter 14 or its successor

- A homeopathic physician who holds a valid and existing license to practice homeopathic medicine pursuant to Title 32, Chapter 29 or its successor

The certifying physician must document on the physician certification form that s/he has performed the following for each QP:

- Has made or confirmed a diagnosis of a debilitating medical condition
- Has established and is maintaining a medical record for the QP
- Has conducted an in-person physical exam within the previous 90 calendar days appropriate to the QP's presenting symptoms and the debilitating medical condition diagnosed or confirmed
- Has reviewed the QP's medical records including those from other treating physicians for the previous 12 months
- Has reviewed the QP's profile on the Arizona Board of Pharmacy Controlled Substances Prescription Monitoring Program database
- Has explained to the QP the potential risks and benefits of the medical use of marijuana
- Whether s/he has referred the QP to a dispensary

The physician must also attest, by signature, that it is the physician's professional opinion that the QP is likely to receive therapeutic or palliative benefit from the patient's medical use of marijuana.

*The physician must attest, by signature, that he or she has established and is maintaining a medical record for the qualifying patient.*

### *Clinical Trials*

When QPs apply for a Registry Identification Card, they may ask to be notified of any available clinical trials. ADHS sends an email to individuals who have selected to receive this information.

### *Minor Patients*

Minor patients (younger than 18 years of age) can qualify for the Arizona Medical Marijuana Program. However, minor patient requirements include two physician certifications during the application process. Additionally, the minor patient's custodial parent or legal guardian must be designated as the minor patient's CG. This CG provides parental consent to the minor patient's use of medical marijuana and controls the dosage, acquisition, and frequency of use.

### *Designated Caregiver Applications for Registry Identification Cards*

Designated caregivers must also hold Registry Identification Cards for each QP who has designated them as a CG. In Arizona, CGs, who must be at least 21 years of age, are limited to serving no more than five QPs. The CG can cultivate, if authorized to do so by his or her QPs, up to 12 marijuana plants per patient if the patient lives more than 25 miles from an operating dispensary.

Similar to QP applications, an individual being designated as a CG by a QP must provide personal demographic information, an identification document, and a current photograph. The CG must also provide the application number from the QP s/he is linking with and complete a signed statement agreeing to assist the QP with the medical use of marijuana, pledging not to divert marijuana to any person who is not allowed to possess marijuana, and stating that the individual has not been convicted of an excluded felony offense. The CG must also submit two original sets of fingerprints to ADHS to complete the application. If the CG is found to have had an excluded felony offense on his or her criminal history, ADHS will revoke the CG's card(s).

### *Application Fees*

The fees are listed in the A.A.C. R9-17-102 and include:

- \$150 for an initial or a renewal Registry Identification Card for a QP. QPs may be eligible to pay \$75 for initial and renewal cards if they currently participate in SNAP.
- \$200 for an initial or a renewal Registry Identification Card for a CG for each QP (up to five patients).
- \$500 for an initial or a renewal Registry Identification Card for a DA.
- \$5,000 for an initial dispensary registration certificate.
- \$1,000 for a renewal dispensary registration certificate.
- \$2,500 to change or add the location of a dispensary or cultivation facility.
- \$10 to amend, change, or replace a Registry Identification Card.

### *Non-Profit Medical Marijuana Dispensaries*

Non-profit medical marijuana dispensaries (dispensaries) are entities that acquire, possess, cultivate, manufacture, deliver, transfer, transport, supply, sell, and dispense medical marijuana. The AMMA and the supporting Administrative Code delineate the process and regulations for medical marijuana dispensary certification, policies, medical director responsibilities and functions, DA registration, and other restrictions and precautions.

ADHS may not issue more than one dispensary registration

*Non-profit medical marijuana dispensaries (dispensaries) are entities that acquire, possess, cultivate, manufacture, deliver, transfer, transport, supply, sell, and dispense medical marijuana.*

certificate for every ten licensed pharmacies in Arizona, except if necessary to ensure ADHS issues at least one dispensary registration certificate in each county.

From May 14 through May 25, 2012, ADHS accepted applications for non-profit medical marijuana dispensaries. For the first year of the initial allocation process (2012), dispensary registration certificates were issued based on one dispensary per Community Health Analysis Area (CHAA). If there was more than one dispensary registration certificate application for a CHAA that met the requirements accurately, ADHS issued dispensary registration certificates using a random selection process.

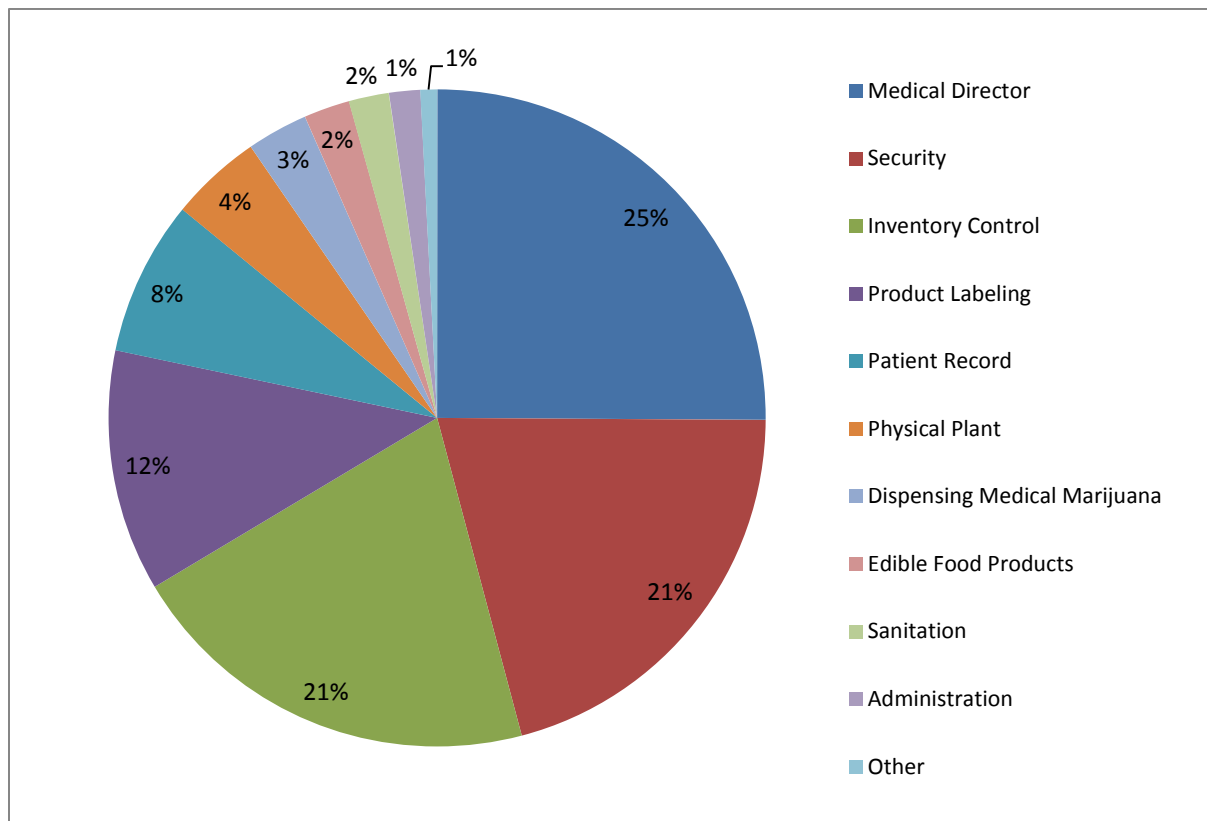
Operational dispensaries and cultivation sites receive routine compliance inspections, as well as complaint inspections in response to allegations of violations with the AMMA and supporting Rules.

For the period of July 1, 2014 through June 30, 2015, ADHS conducted 48 Approval to Operate inspections and 265 compliance inspections. ADHS documented an average of 3 deficiencies per inspection for all inspection types. An average of 5.2 deficiencies were documented per compliance inspection. Of the 265 compliance inspections conducted by ADHS, 175 inspections were conducted at dispensaries and 90 inspections were conducted at cultivation sites. During the same period, ADHS conducted 9 complaint inspections of 8 operational dispensaries and 1 operational cultivation site. Table 1 demonstrates the distribution of inspection type(s) among facility type.

**Table 1.** *Distribution of Inspection Type(s) Among Facility Type, July 1, 2014 through June 30, 2015*

	<i>Approval to Operate</i>	<i>Compliance</i>	<i>Complaint</i>	<i>Total</i>
Dispensary	12	175	8	<b>195</b>
Cultivation Site	36	90	1	<b>127</b>
<b>Total</b>	<b>48</b>	<b>265</b>	<b>9</b>	<b>322</b>

**Figure 1.** *Distribution of Noncompliance Items during Compliance Inspections by Category, July 1, 2014 through June 30, 2015*



Ninety-nine dispensary registration certificates have been issued; 61 cultivation sites have been approved. Eighty-six dispensaries have applied for and obtained ADHS authorization to sell or dispense medical marijuana infused edible food products. Nineteen dispensaries have applied for and obtained authorization to prepare medical marijuana infused edible food products and supply edibles to other dispensaries.

#### *Non-profit Medical Marijuana Dispensary Agents*

Non-profit Medical Marijuana Dispensary Agents are principal officers, board members, employees, or volunteers of non-profit medical marijuana dispensaries and must be at least 21 years of age. DAs perform many functions including:

- Dispensing medical marijuana
- Verifying QP and CG Registry Identification Cards before dispensing
- Maintaining QP records
- Maintaining an inventory control system
- Ensuring that medical marijuana has the required product labeling

- Providing required security
- Ensuring that edible food products sold or dispensed are prepared only as permitted
- Maintaining the dispensary and cultivation site in a clean and sanitary condition

DAs, similar to CGs, cannot have been convicted of an excluded felony offense. ADHS collects original sets of fingerprints and processes the fingerprints to determine if the individual has an excluded felony offense. A DA is required to be registered with ADHS before volunteering or working at a dispensary. Dispensaries must apply for a Registry Identification Card for each DA.

## Overview of Revenue and Expenditures

**Table 2.** Medical Marijuana Fund Revenues, Expenditures, and Fund Balance in SFY 2015

<b>Beginning Fund Balance</b>	<b>\$ 8,826,673</b>
<b><u>Revenues</u></b>	
Registry Card Application Fees	10,974,685
Dispensary Application Fees	1,394,220
<b>Total Revenues</b>	<b>12,368,905</b>
<b><u>Expenditures</u></b>	
Salaries, Wages and Benefits	1,836,322
Operating Expenditures (Professional & Outside Services, Other Operating Expenditures, Travel and Non-Capital Equipment)	5,353,994
Inter-Governmental Agreements	2,357,466
Capital Equipment Expenditures	183,170
<b>Total Expenditures</b>	<b>9,730,952</b>
<b>Ending Fund Balance</b>	<b>\$ 11,464,626</b>

Professional & Outside Services include expenditures associated with vendors and contractors such as Sherman & Howard, L.L.C. (\$527,203), Attorney General's Office (\$159,000), and Henry and Horne PLC (\$32,892). Other Operating Expenditures include expenses associated with direct and indirect charges and contra revenue (bank fees associated with credit card processing). Intergovernmental Agreements (IGAs) and Intergovernmental Service Agreements (ISAs) are contracts with other state and local government agencies, boards, or commissions. For further analysis and examination, please visit the [Arizona Open Books](https://procure.az.gov/bso/) website: <https://procure.az.gov/bso/>.

# Methodology

During the past state fiscal year, ADHS received a total of 81,267 registry identification card applications. These include new and renewal applications for qualifying patients, caregivers and dispensary agents. There were 80,756 active cardholders, which included 77,639 qualifying patients, 705 caregivers, and 2,412 dispensary agents. A key difference in the numbers of applications received versus the number of active cardholders is the fact that an individual can have more than one application while cardholders are typically individuals and usually counted once in the system. The current report covers state fiscal year 2015 (i.e., July 1, 2014 to June 30, 2015) and is based on all active cardholders, which are unique individual counts.

Data on all cardholders are collected via a secure electronic web-based application system. The information collected by ADHS for purposes of administering the program is confidential by statute (A.R.S. § 36-2810), exempt from public records requests under A.R.S. Title 39, Chapter 1, Article 2, exempt from requirements for sharing with federal agencies under A.R.S. § 36-105, and not subject to disclosure to any individual or public or private entity, except as necessary for authorized employees of ADHS to perform official duties of the Department.

## 2.1 Data Sources

The data for this annual report are derived from the information collected via an electronic web-based system for QPs and CGs. A de-identified dataset for the period starting July 1, 2014 to June 30, 2015 was provided by ADHS to the University of Arizona. The de-identified dataset contained information for all active cardholders during this time-period. This de-identified dataset contained records that included both QPs (n = 77,639) and CGs (n = 705) and information relevant to their application, as required by A.R.S. §36-2809, for preparation of the annual report.

## 2.2 Measures

The measures reported here were pre-populated by ADHS to ensure confidentiality and mostly relate to the QPs' and CGs' characteristics:

- Gender of the QP and CG
- Age in years for QPs and CGs (<18, 18-30, 31-40, 41-50, 51-60, 61-70, 71-80, and 81+)
- County of residence
- Authorized to cultivate or cultivation status of a QP
- Application type (new, renewal)
- Card status (active, revoked, date of issue, date of expiration)



- Applicant type
- Debilitating medical conditions (i.e. Alzheimer, Cancer, Glaucoma, HIV/AIDS, Hepatitis C, Sclerosis, Crohn's Disease, Cachexia, Severe and Chronic Pain, Nausea, Seizures, Muscle Spasms, PTSD and other specific conditions)
- Clinical trial status
- SNAP eligibility
- Homelessness status
- Physician specialization

Most of the measures in this report comprise of simple frequencies (counts) and percentages. However, where appropriate, measures of center and spread (i.e. averages, standard deviation, median, and inter-quartile ranges) are included along with rates. ADHS analyzed data on physicians due to confidentiality considerations, and the analysis has been included in this report to satisfy the requirements of the annual report.

### **2.3 Analytic Procedures**

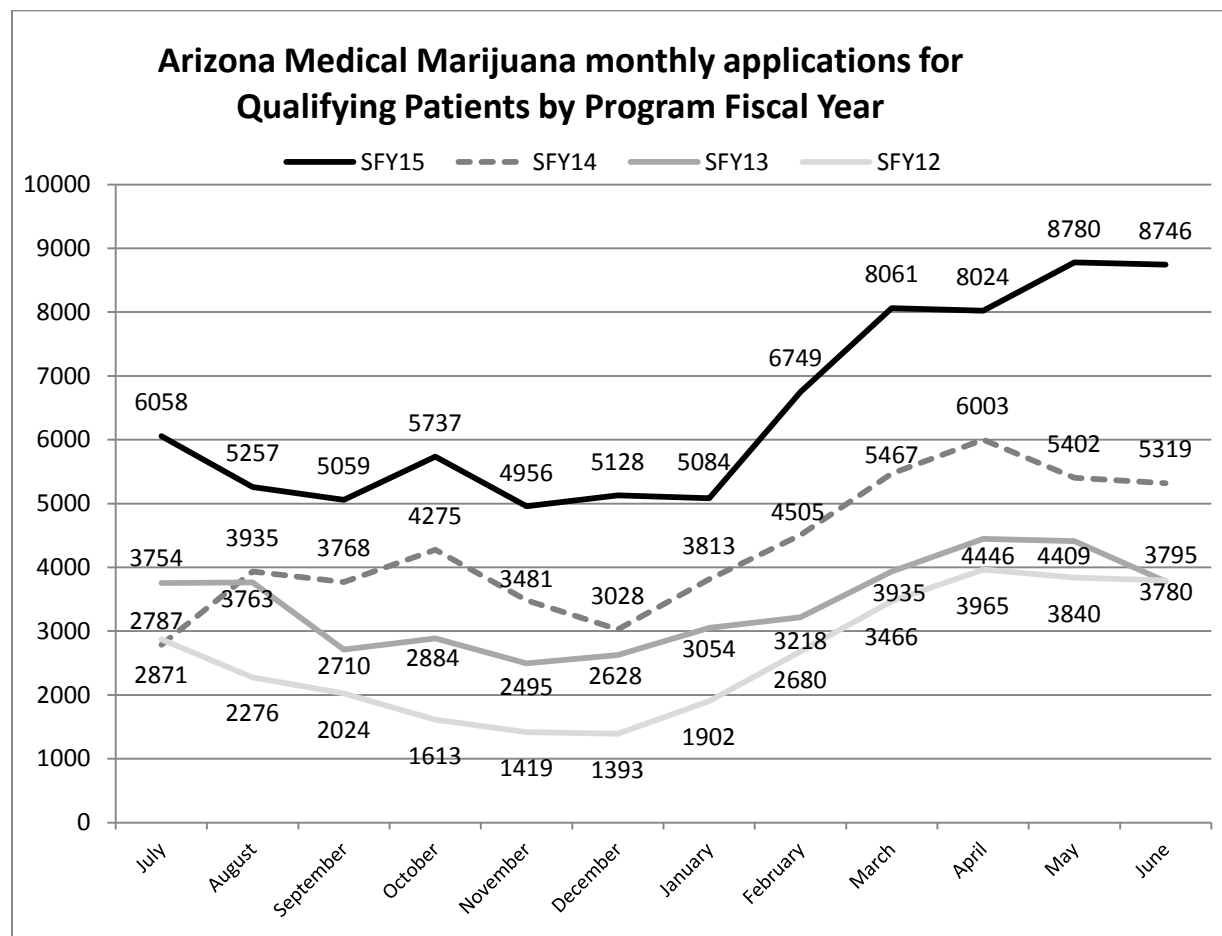
Where applicable, both univariate and bivariate statistics are presented. Rates and chi-square tests were estimated using SAS v9.2 2008 software. Population denominators for 2014 were obtained from ADHS vital statistics.

# Results

The results discussed in this report provide an overview of the active cardholders from July 1, 2014 to June 30, 2015, which is referred to as 2015 State Fiscal Year. During this time period, there were a total of 80,756 active cardholders, which included 77,639 qualifying patients, 705 caregivers, and 2,412 dispensary agents. An individual can be a qualifying patient, designated caregiver, and/or a dispensary agent at any given time. For the purposes of this report, if an individual has a card in more than one category (QP, CG, DA), that individual will be counted once in each category for which he/she has a card. Figures 2 and 3 below provide an overview of the active cards by initial application month during the past four fiscal years (SFYs).

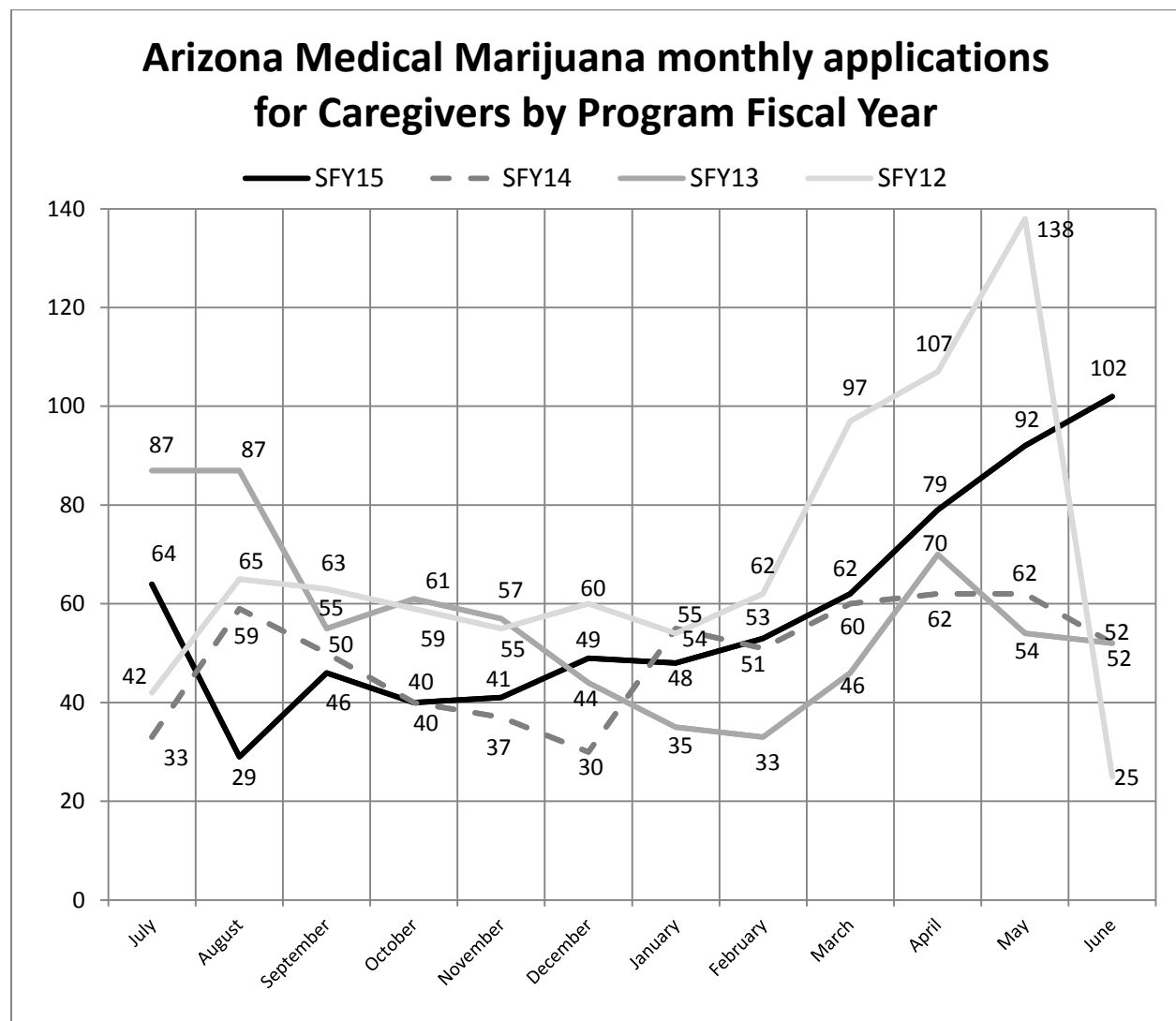
It is evident from Figure 2 that there is somewhat of a cyclical action in the number of applications of cardholders for QPs. There was a 213% increase in the total number of applications from the first year of the program.

**Figure 2.** *Arizona Medical Marijuana qualifying patient monthly applications for the past four SFYs*



Now that the Arizona Medical Marijuana program is more established, a pattern similar to applications of QPs is evident for designated CGs (see Figure 3). It is important to note that a CG can have up to five QPs, and further, an individual can be a QP and/or a CG. Hence, they may be counted as a QP and a CG. Because the CG status can change with time, to estimate a ‘true count’ of the number of individuals who are both CGs and QPs is difficult. Similar to the Figure for QPs, Figure 3 indicates the number of active Caregiver cards by initial application month during the past four state fiscal years (SFYs).

**Figure 3.** *Arizona Medical Marijuana designated caregiver monthly applications for the past four SFYs*



### 3.1 Characteristics of Qualifying Patients and Designated Caregivers

The Arizona Medical Marijuana Program collects a variety of patient data at the time of application that includes date of birth, gender, county of address, debilitating conditions, and details of recommending physician as per AMMA requirements. Table 3 outlines the demographic characteristics of QPs by age and gender. One-third of the QPs were females (QPs n =26,091). Two-thirds of the QPs were males (QPs n =51,548). On average, females were more likely to be older compared to males.

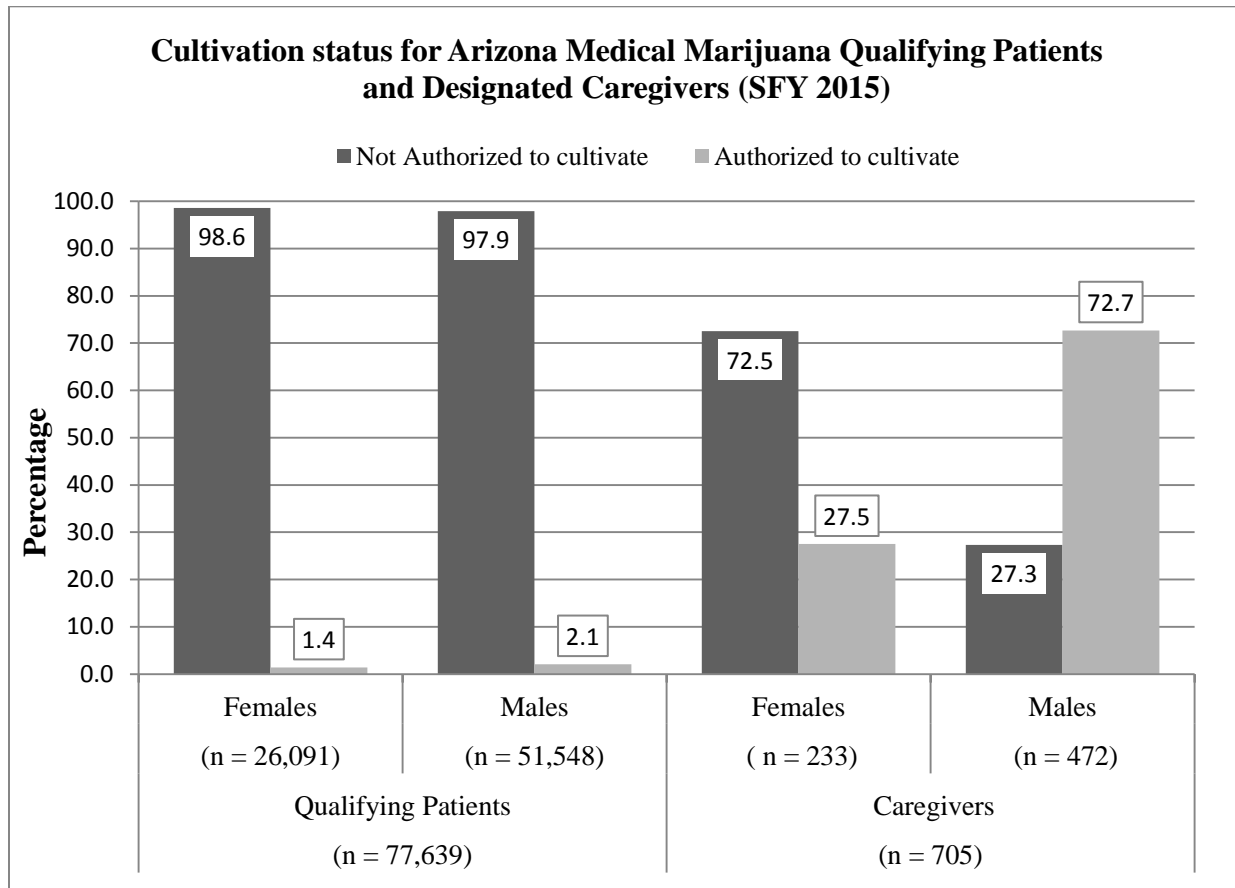
**Table 3** *Demographic characteristics of Qualifying Patients and Designated Caregivers*

Age groups	Qualifying Patients (n = 77,639)	
	Males	Females
< 18 years	92 (0.2)	36 (0.1)
18 – 30 years	14044 (27.3)	4855 (18.6)
31 – 40 years	10941 (12.2)	4624 (17.7)
41 – 50 years	7874 (15.3)	4385 (16.8)
51 – 60 years	8826 (17.1)	6472 (24.8)
61 – 70 years	7902 (15.3)	4368 (16.7)
71 – 80 years	1586 (3.1)	1044 (4.0)
81 + years	283 (0.6)	307 (1.2)
<b>State Totals</b>	<b>51,548 (66.4)</b>	<b>26,091 (33.6)</b>
<i>Mean Age yrs (SD)</i>	<i>43.8 (16.0)</i>	<i>47.7 (15.6)</i>

Approximately, 13% of the QPs (n 10,035) applied under SNAP eligibility for a reduced fee for a card during this time period. Of those who were SNAP eligible, the majority (n = 5,617 or 56%) were males.

Figures 4 and 5 on the following pages provide an overview of the cultivation status by card type and by gender. The AMMA does not stipulate the place of cultivation for a QP and/or a designated CG, and therefore, one cannot infer that an individual cardholder actually cultivates marijuana in the same place as his or her residence. From July 1, 2014 to June 30, 2015, approximately 2.4% (n = 1,864) of QPs and CGs were authorized to cultivate. A significantly greater proportion of both QPs and CGs authorized to cultivate are male.

**Figure 4.** *Arizona Medical Marijuana qualifying patients' and designated caregivers' cultivation status by gender*



**Figure 5.** *Differences in cultivation status for qualifying patients and designated caregivers for the past four SFYs*

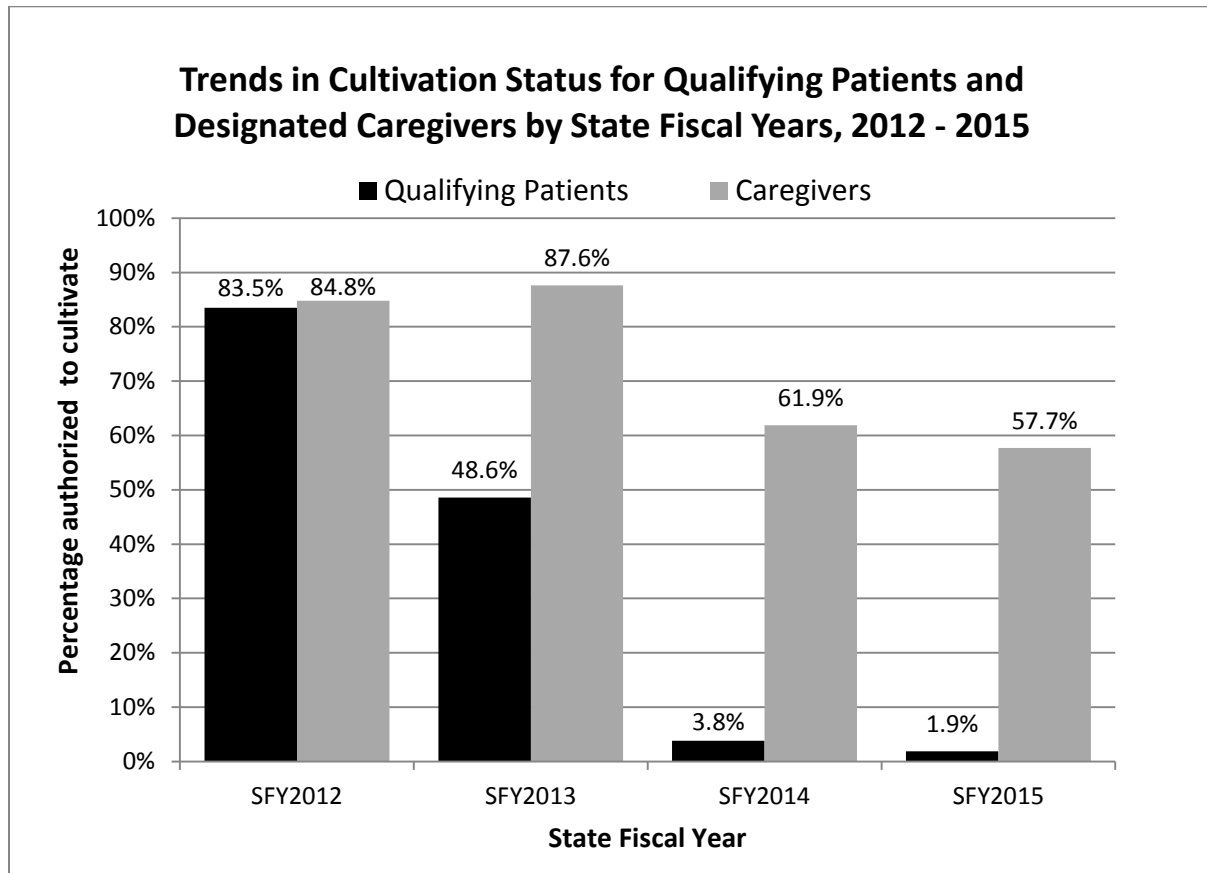


Table 4 provides an overview of QPs and CGs by county of residence along with their cultivation status. Expressing the number of medical marijuana QPs as a proportion of the population in the county is a more appropriate reflection of the prevalence of cardholders than a simple proportion. For instance, while Maricopa County had the largest percentage of QPs ( $n = 48,153$ ; ~62%), followed by Pima County ( $n = 10,588$ ; ~14%), when adjusted for the total population (as a per capita measure), Maricopa has 12.0 QPs per 1000 residents and Pima has 10.5 QPs per 1000 residents. This is more reflective of the total population.

Qualifying patients per 1,000 residents were highest in Yavapai County (20.6), followed by Gila County (18.5) and Coconino County (17.1). Yuma County (4.4), Santa Cruz County (5.7), and Graham County (7.7) had the lowest qualifying patients per 1,000 residents.

Similarly, QPs and CGs authorized to cultivate were highest in Greenlee County (3.3 per 1000 residents), followed by Apache County (3.1 per 1000 residents), and La Paz County (2.4 per 1000 residents).

**Table 4.** *Arizona medical marijuana qualifying patients, designated caregivers, and the qualifying patient cultivation status by county of residence*

Residence County	Estimated Population in 2014 <sup>1</sup>	Qualifying Patients			Caregivers			Authorized to Cultivate		
		Counts	Percent	QPs per 1000 residents	Counts	Percent	CGs per 1000 residents	Counts	Percent	Cultivation status per 1000 residents
Apache	71,868	732	0.9%	10.18	5	0.7%	0.07	219	11.7%	3.05
Cochise	129,628	1194	1.5%	9.21	8	1.1%	0.06	81	4.4%	0.63
Coconino	139,372	2383	3.1%	17.10	45	6.4%	0.32	215	11.5%	1.54
Gila	54,219	1001	1.3%	18.46	6	0.9%	0.11	73	3.9%	1.35
Graham	38,315	294	0.4%	7.67	3	0.4%	0.08	32	1.7%	0.84
Greenlee	10,476	108	0.1%	10.31	2	0.3%	0.19	35	1.9%	3.34
La Paz	21,205	219	0.3%	10.33	0	0.0%	0	50	2.7%	2.36
Maricopa	4,008,651	48153	62.0%	12.01	429	60.9%	0.11	441	23.7%	0.11
Mohave	204,000	3106	4.0%	15.23	12	1.7%	0.06	139	7.5%	0.68
Navajo	109,185	1034	1.3%	9.47	15	2.1%	0.14	121	6.5%	1.11
Pima	1,007,162	10588	13.6%	10.51	97	13.8%	0.10	141	7.6%	0.14
Pinal	396,237	3154	4.1%	7.96	36	5.1%	0.09	37	2.0%	0.09
Santa Cruz	49,554	282	0.4%	5.69	3	0.4%	0.06	4	0.2%	0.08
Yavapai	215,357	4442	5.7%	20.63	37	5.3%	0.17	241	12.9%	1.12
Yuma	212,012	945	1.2%	4.46	7	1.0%	0.03	35	1.9%	1.16
Unknown		4	0.0%							
		<b>77,639</b>	<b>100%</b>		<b>705</b>	<b>100%</b>		<b>1864</b>	<b>100%</b>	
<b>State Totals</b>	<b>6,667,241</b>	<b>77,639</b>	<b>1.16%</b>	<b>11.64</b>	<b>705</b>	<b>0.01%</b>	<b>0.09</b>	<b>1864</b>	<b>2.38%</b>	<b>0.28</b>

Table 5 provides on the next page, a similar overview indicating the number of Dispensary Agents in each county.

**Table 5.** *Arizona medical marijuana dispensary agents by county*

County	Counts
Apache	19
Cochise	46
Coconino	105
Gila	41
Graham	13
Greenlee	4
La Paz	28
Maricopa	1283
Mohave	118
Navajo	53
Pima	335
Pinal	174
Santa Cruz	20
Yavapai	137
Yuma	36
<b>State Totals</b>	<b>2,412</b>

### 3.2 Nature of Debilitating Medical Conditions among Qualifying Patients

As per AMMA requirements, ADHS collects information about 14 debilitating medical conditions: (i) cancer; (ii) Hepatitis C; (iii) cachexia; (iv) seizures; (v) glaucoma; (vi) sclerosis; (vii) Alzheimer's; (viii) severe and chronic pain; (ix) muscle spasms; (x) HIV; (xi) AIDS; (xii) Crohn's disease; (xiii) nausea, and (xiv) post-traumatic stress disorder. Certifying physicians can select one or more of the 14 conditions. Table 6 on page 20 provides an overview of the unique debilitating medical conditions of the QPs during this time period.

In contrast to previous years, the majority of the qualifying patients (n = 46,896; ~60%) had two or more debilitating medical conditions with the remaining 40% reporting a singular debilitating condition. Approximately 33% of the qualifying patients (n = 25,705) indicated “severe and chronic pain” as the only debilitating medical condition. Cancer was the second largest unique debilitating condition (n = 1,726; 2.2%), followed by Hepatitis C (n = 704; 0.9%).

With regards to multiple conditions, severe and chronic pain in combination with at least one other debilitating medical condition accounted for 57% of the total (n = 44,451) and combinations without mention of severe and chronic pain accounted for approximately 3% (n =



2,445) of all the debilitating medical conditions. In essence, more than 90% (n = 70,156) of all debilitating medical conditions had severe and chronic pain as a unique and/or multiple condition.

**Table 6.** *Reported debilitating medical conditions for qualifying patients of medical marijuana*

Nature of Debilitating Conditions	Qualifying Patients	
	Count	Percent
<b>Unique Conditions</b>	<b>30,743</b>	<b>39.6%</b>
Severe and chronic pain	25,705	33.1%
Cancer	1726	2.2%
Hepatitis C	704	0.9%
Glaucoma	502	0.7%
Post-Traumatic Stress Disorder	487	0.6%
Crohn's Disease	338	0.4%
HIV/AIDS	341	0.4%
Muscle Spasms	311	0.4%
Nausea	204	0.3%
Seizures	337	0.4%
Alzheimer's	30	< 0.1%
Cachexia	29	< 0.1%
Sclerosis	29	< 0.1%
<b>Multiple conditions</b>	<b>46,896</b>	<b>60.4%</b>
Severe and chronic pain in combination with one other debilitating condition	38,309	49.3%
Severe and chronic pain in combination with two other debilitating conditions	5,368	6.9%
Severe and chronic pain in combination with three other debilitating condition	691	0.9%
Severe and chronic pain in combination with four other debilitating condition	73	0.1%
Severe and chronic pain in combination with five other debilitating condition	10	< 0.1%
Combinations without mention of severe and chronic pain	2445	3.1%
<b>State Totals</b>	<b>77,639</b>	<b>100%</b>

With regards to debilitating medical conditions, age and gender play a significant role. The following paragraphs detail the nature of debilitating conditions for QPs from the July 1, 2014 to June 30, 2015 time period. For purpose of brevity, debilitating medical conditions were classified in two broad categories: a) unique and b) two or more conditions. This type of classification

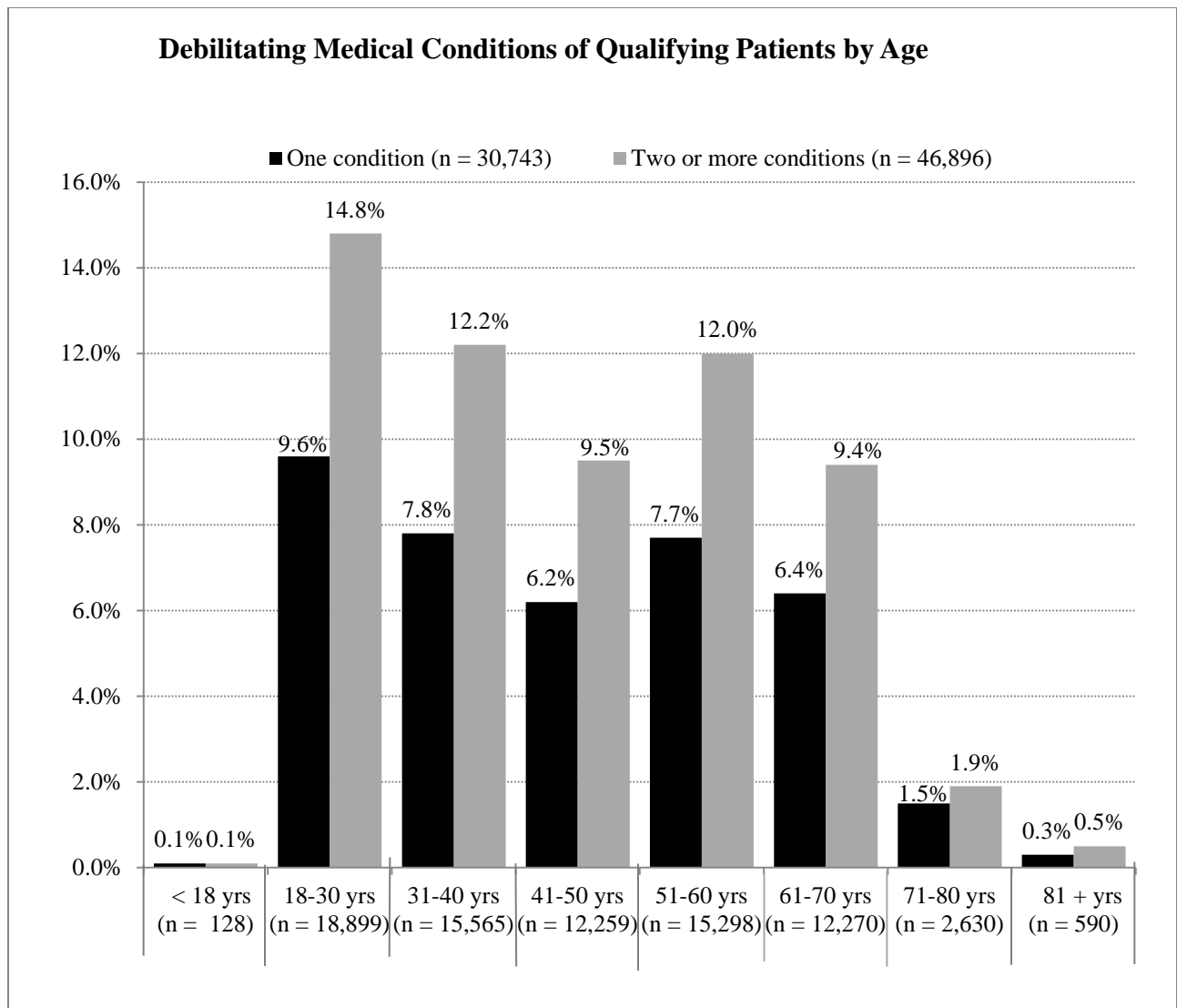
allowed examining any association between age and gender with one or more debilitating condition.

Figures 6 and 7 display the debilitating medical conditions of the QPs by age and gender.

Qualifying patients who indicated only one unique debilitating medical condition were more likely to be slightly older (average age  $45.3 \pm 16.1$  years compared to  $45.0 \pm 15.9$  years).

Approximately 40% of the males indicated one unique debilitating condition compared to almost 38% of females, while more than 62% of females indicated having two or more debilitating conditions compared to approximately 60% of males. In general, females were almost 13% more likely than males to indicate two or more debilitating conditions, and the difference was statistically significant with  $\chi^2 = 58.7$  (1)  $p < 0.0001$ .

**Figure 6.** *Debilitating medical conditions by age of the qualifying patient*



**Figure 7.** *Debilitating medical conditions by gender of the qualifying patient*

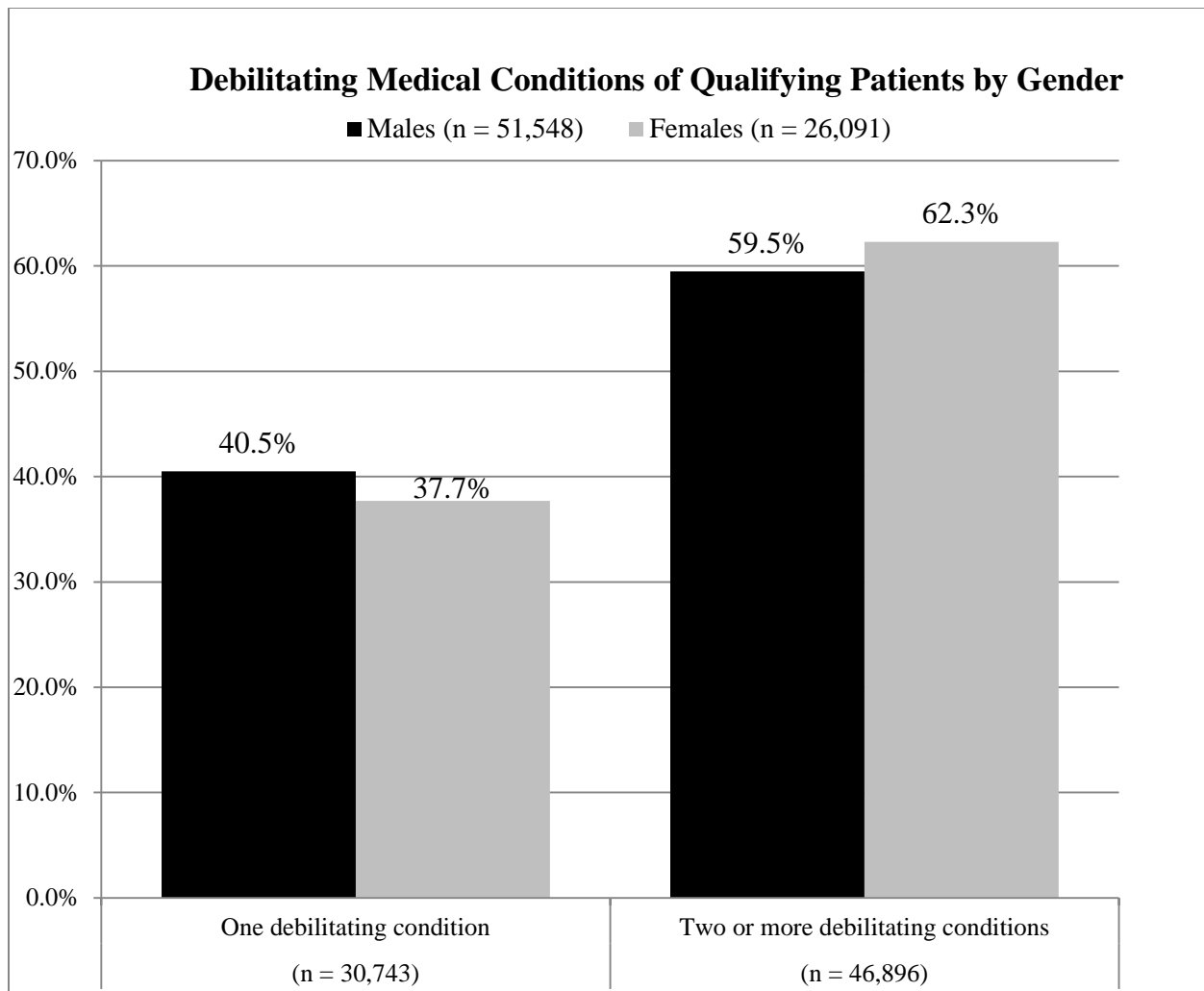


Figure 8 provides an overview of debilitating conditions with and without any mention of severe and chronic pain by age. It is evident that those with a diagnosis of severe and chronic pain were more likely to be younger (average age 44.4 years  $\pm$  15.8 years) than those qualifying patients with debilitating conditions that do not mention severe or chronic pain (average age 51.6 years  $\pm$  16.2 years,  $p < 0.0001$ ).

**Figure 8.** *Debilitating medical condition with and without mention of severe and chronic pain*

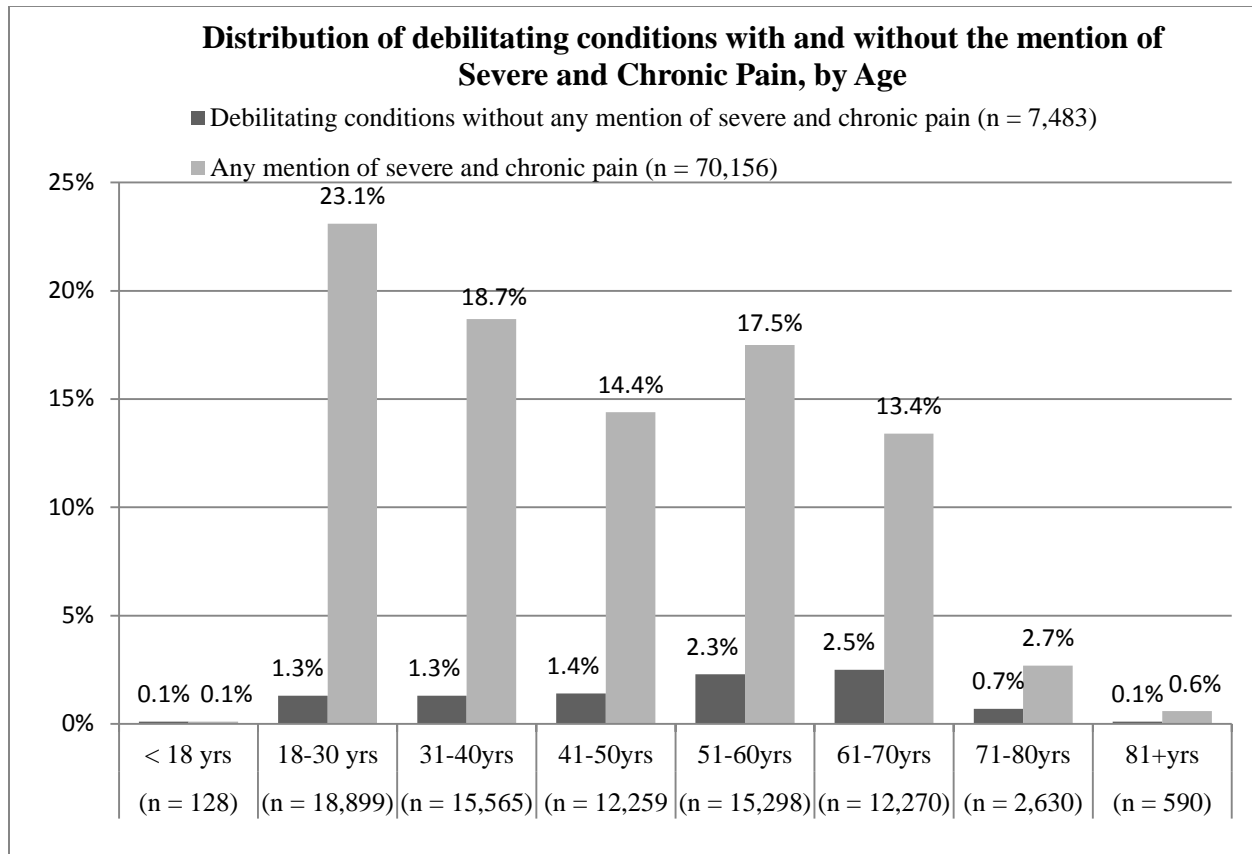


Table 7 on the following page gives an overview of debilitating medical conditions for QPs less than 18 years of age in order of frequency. As noted earlier, there has been a steady increase in the number of qualifying patients, including those who are minors. In 25% of the minor QP cases (n = 32), “seizures” was listed as a unique debilitating condition, followed by 19% (n = 24) of the cases in which “any debilitating medical condition that results in severe and chronic pain,” was listed as a unique debilitating condition. More than half of the cases, had two or more debilitating conditions listed (n = 66, 52%). Among minor QPs, 30% (n = 38) listed severe and chronic pain in combination with another unique debilitating condition, while 22% (n = 28) had two or more debilitating conditions without any mention of severe and chronic pain.

**Table 7.** *Debilitating medical conditions for qualifying patients who are minors*

Nature of Debilitating Conditions	Minor Qualifying Patients (< 18 years)	
	Count	Percent
<b>Unique Conditions</b>	<b>62</b>	<b>48.4%</b>
Seizures	32	25.0%
Severe and chronic pain	24	18.8%
Cancer	3	2.3%
Crohn's Disease	1	0.8%
Nausea	1	0.8%
Post-Traumatic Stress Disorder	1	0.8%
Hepatitis C	0	0.0%
Cachexia	0	0.0%
Glaucoma	0	0.0%
Sclerosis	0	0.0%
Alzheimer's	0	0.0%
Muscle Spasms	0	0.0%
HIV/AIDS	0	0.0%
<b>Multiple conditions</b>	<b>66</b>	<b>51.6%</b>
Severe and chronic pain in combination with one other debilitating condition	23	18.0%
Severe and chronic pain in combination with two other debilitating conditions	12	9.4%
Severe and chronic pain in combination with three other debilitating condition	3	2.3%
Severe and chronic pain in combination with four other debilitating condition	0	0.0%
Combinations without mention of severe and chronic pain	28	21.8%
<b>State Totals</b>	<b>128</b>	<b>100%</b>

### **3.3 Registry Identification Card(s) Revoked**

ADHS will initiate a revocation when a CG or a DA has been found to have an excluded felony offense or has knowingly violated the AMMA and is thus prohibited by statute to be a CG or DA. From July 1, 2014 through June 30, 2015, 7 CG cards, and 3 DA cards were revoked.

### **3.4 Characteristics of Physicians Providing Written Certifications**

Table 8 on the following page provides an overview of the total number of medical marijuana certifications during from July 1, 2014 through June 30, 2015. The total certifications in the table reflect the total number of patients certified by each physician type. Seven hundred fourteen (n = 714) physicians certified 77,639 patients during this time period with an overall average of 109 patients per physician. A closer examination of Table 8 indicates that 104 Naturopathic Physicians (NDs) certified 67,608 patients during this time period with an average certification of 650 patients per ND, while 481 Medical Doctors (MDs) certified 9,189 patients with an average of 19 certifications per MD during the same time period. Similarly, 103 Osteopathic Physicians (DOs) certified 667 patients with an average certification of slightly less than seven patients per DO, and 26 Homeopathic Physicians (HMDs) certified 175 patients with an average of seven patients per HMD.

Slightly over 87% of the patient certifications (67,608 / 77,639) were issued by NDs, followed by approximately 12% (9,189 / 77,639) by MDs; although, MDs accounted for almost 65% (408 / 615) of the total physician certifiers.

Table 8 provides an overview of the 25 most frequent physician certifiers who accounted for 63% of the total certifications (49,049). For instance, 23 NDs certified 46,188 patients accounting for approximately 68% of the total patient certifications in the ND category, while two MDs certified 2,861 patient certifications accounting for 31% of the total patient certifications in the MD category. No DOs or HMDs were among the top 25 physician certifiers.

**Table 8. Characteristics of physician certifications by type/specialization**

	Medical Marijuana certifications, SFY15		
	Counts of physician certifiers <sup>†</sup>	Total number of certifications by physician type	Average number of certifications <sup>‡</sup>
Doctor of Medicine (MD)	481	9,189	19.1
Doctor of Naturopathic Medicine (ND)	104	67,608	650.1
Doctor of Osteopathic Medicine (DO)	103	667	6.5
Doctor of Homeopathic Medicine (HMD)	26	175	6.7
<b>Overall State Totals</b>	<b>714</b>	<b>77,639</b>	<b>108.7</b>
	25 most frequent certifiers of Medical Marijuana		
	Counts of the most frequent physician certifiers <sup>†</sup>	Number of certifications by physician type	Percent of total certifications within specialization <sup>±</sup>
Doctor of Medicine (MD)	2	2,861	31.1%
Doctor of Naturopathic Medicine (ND)	23	46,188	68.3%
Doctor of Osteopathic Medicine (DO)	0	0	0.0%
Doctor of Homeopathic Medicine (HMD)	0	0	0.0%
<b>Top 25 Certifier Totals</b>	<b>25</b>	<b>49,049</b>	<b>63.2%</b>

<sup>†</sup>Counts are unique by type of physician certifiers and license number.

<sup>‡</sup> Average number of certifications is total number of certifications in each category divided by the unique count of physicians in that category (i.e. 9,189 / 481 = 19.1). On average, each MD that certified, certified 19 patients.

<sup>±</sup> Percent of total certifications within specialization reflects the total number of certification by most frequent physician certifiers divided by total number of physician certifications within the same specialization completed during the time-period. For example, two MDs accounted for 31% of the total certifications in the MD category (i.e. 2,861 / 9,189).



Figure 9 below displays the most frequent physician certifiers by type to further illustrate the point made in Table 9.

**Figure 9.** *Most frequent recommending physicians by licensing board*

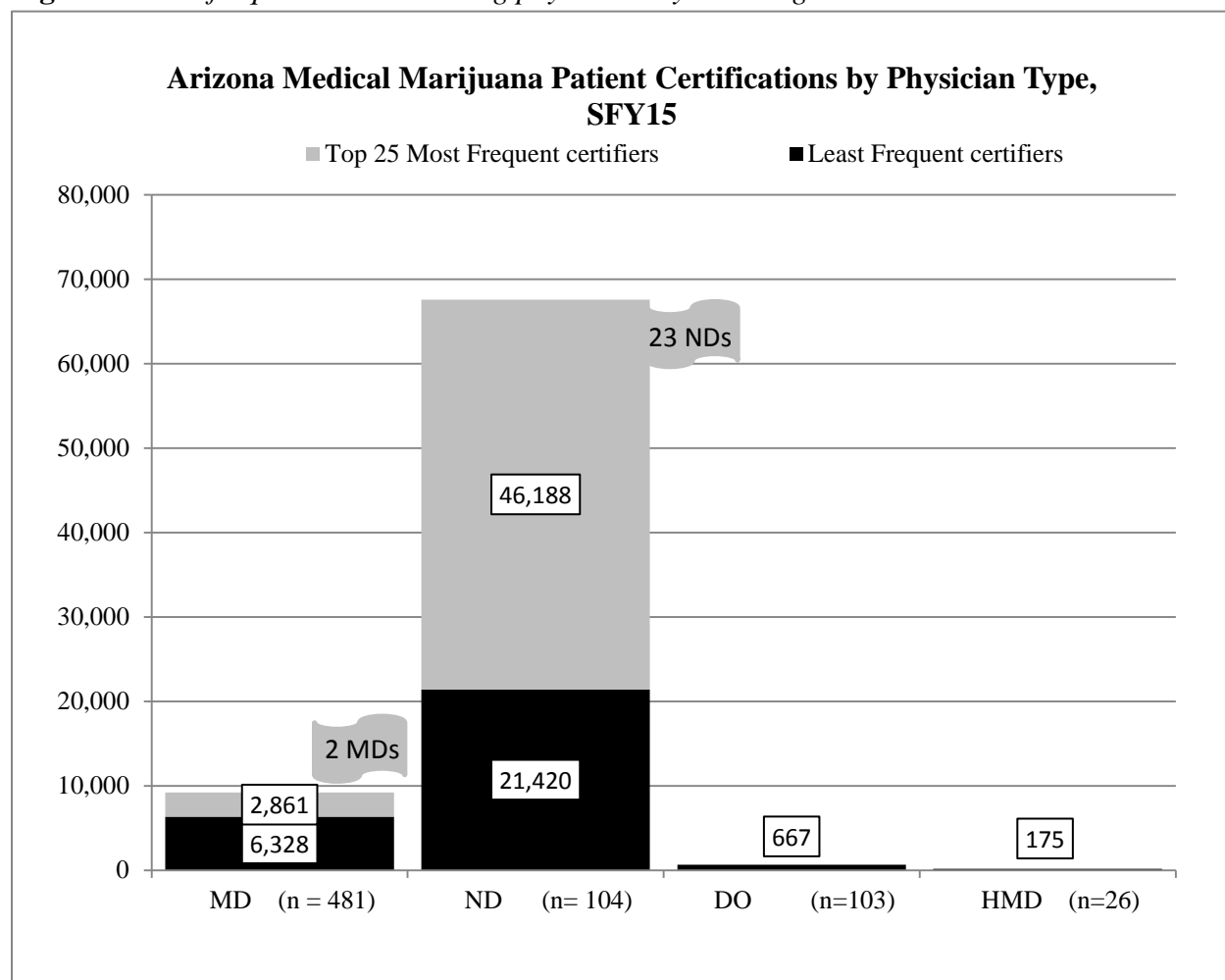


Table 9 below provides an overview of the physician recommendations for different debilitating medical conditions. As noted earlier, severe and chronic pain is consistently the highest reported debilitating medical condition irrespective of the physician type.

**Table 9.** *Debilitating medical conditions by recommending physician type*

Nature of Debilitating Medical Conditions	Physician Certifications for Debilitating Medical Conditions								Totals	Percent
	DO		MD		ND		HMD			
	Count	%	Count	%	Count	%	Count	%		
Severe/Chronic pain	127	19.0%	1,750	19.0%	23,777	35.2%	50	28.6%	25,705	33.1%
Cancer	17	2.6%	353	3.8%	1349	2.0%	7	4.0%	1726	2.2%
Hepatitis C	8	1.2%	116	1.3%	578	0.8%	2	1.1%	704	0.9%
Glaucoma	5	0.8%	64	0.7%	433	0.6%	0	0.0%	502	0.7%
PTSD	1	0.2%	59	0.6%	427	0.6%	0	0.0%	487	0.6%
Crohn's disease	17	2.6%	353	3.8%	293	0.4%	0	0.0%	338	0.4%
Seizures	0	0.0%	34	3.7%	303	0.5%	0	0.0%	337	0.4%
HIV/AIDs	1	0.2%	88	1.0%	250	0.4%		0.0%	341	0.4%
Muscle spasms	6	0.9%	116	1.3%	174	0.3%	15	8.6%	311	0.4%
Nausea	1	0.2%	18	0.2%	184	0.3%	1	0.0%	204	0.3%
Sclerosis	0	0.0%	5	<0.1%	24	<0.1%	0	0.0%	29	< 0.1%
Alzheimer's	0	0.0%	9	0.1%	21	<0.1%	0	0.0%	30	< 0.1%
Cachexia	1	0.2%	7	<0.1%	21	<0.1%	0	0.0%	29	< 0.1%
Two or more debilitating conditions	496	74.4%	6,529	71.0%	39,773	58.8%	98	56.0%	46,896	60.4%
Overall state Totals	667	100.0%	9,189	100.0%	67,608	100.0%	175	100.0%	77,639	100.0%

### 3.5 Registered Non-Profit Medical Marijuana Dispensaries

Since July 1, 2012, ADHS has issued 100 dispensary registration certificates. See Appendix D for the current status (allocated, operating, or vacant) of the 126 CHAA's in Arizona.

### 3.6 Non-Profit Medical Marijuana Dispensary Agents

From July 1, 2014 through June 30, 2015, ADHS issued 2,412 DA Registry Identification Cards.

# Discussion

Between July 1, 2014 and June 30, 2015, there were a total of 80,756 active cardholders, which included 77,639 qualifying patients, 705 caregivers, and 2,412 dispensary agents. ADHS has been administering the program to support Arizona residents for whom medical marijuana may provide therapeutic and palliative benefit. The majority of the qualifying patients (n = 46,896; ~60%) had two or more debilitating medical condition, with the remaining 40% reporting one unique condition. Approximately one-third of the qualifying patients (n = 25,705) indicated “severe and chronic pain” as the only debilitating medical condition. Cancer was the second largest unique debilitating condition (n = 1,726; 2.2%), followed by Hepatitis C (n = 704; 0.9%). Ninety percent of all debilitating medical conditions had severe and chronic pain as a unique and/or as part of multiple conditions.

Given that “severe and chronic pain” accounts for the majority of the debilitating condition either as a unique and/or in combination, it is important to understand the etiology of how medical marijuana may influence pain management. One plausible way to capture a more nuanced classification of debilitating medical condition is standardizing the collection of debilitating medical conditions through *International Classification of Diseases, Tenth Revision* (ICD 10) codes, which would allow comparison of incidence of certain debilitating medical conditions through other available data sources at ADHS. However, current Arizona Medical Marijuana Act (AMMA) provisions limit the scope for any such analysis. Conducting any epidemiological analyses to understand public health and safety implications are difficult unless AMMA statutory elements are amended (i.e., must be in furtherance of the act). Public health impacts to examine the relationship of poisonings and the decrease in prescription drug use among qualifying medical marijuana patients prior to and post implementation of AMMA compared to the general population. For instance, evidence from Colorado suggests that the proportion of ingestion visits to Emergency Departments related to marijuana exposure increased after decriminalization of medical marijuana in Colorado.<sup>i</sup>

Since the passage of the law, in two instances (Laws 2012, Chapter 112 and Laws 2011, Chapter 336), modifications to AMMA were put in place to clarify ADHS’ authority to share doctor information with the various medical boards and required ADHS to allow employer access to the medical marijuana database to verify if employees were valid cardholders. Additionally, Laws 2011, Chapter 94 required modification of the controlled substances database to include medical marijuana to allow physicians to make more informed decisions about patient care.

## **Appendix A**

### **Arizona Medical Marijuana Program Statutes and Rules**

#### **Arizona Revised Statutes (A.R.S.) that Govern the Arizona Medical Marijuana Program**

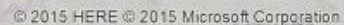
The Arizona Revised Statutes (A.R.S.) represent the statutory laws of the state of Arizona. The A.R.S. and the [Arizona Medical Marijuana Rules](#) each contain requirements applicable to the Arizona Medical Marijuana Program. Accordingly, to fully understand all the requirements applicable to the Arizona Medical Marijuana Program, the A.R.S. and the Arizona Medical Marijuana Rules should be read in conjunction with each other.

A.R.S. Title 36

#### **CHAPTER ARIZONA MEDICAL MARIJUANA ACT**

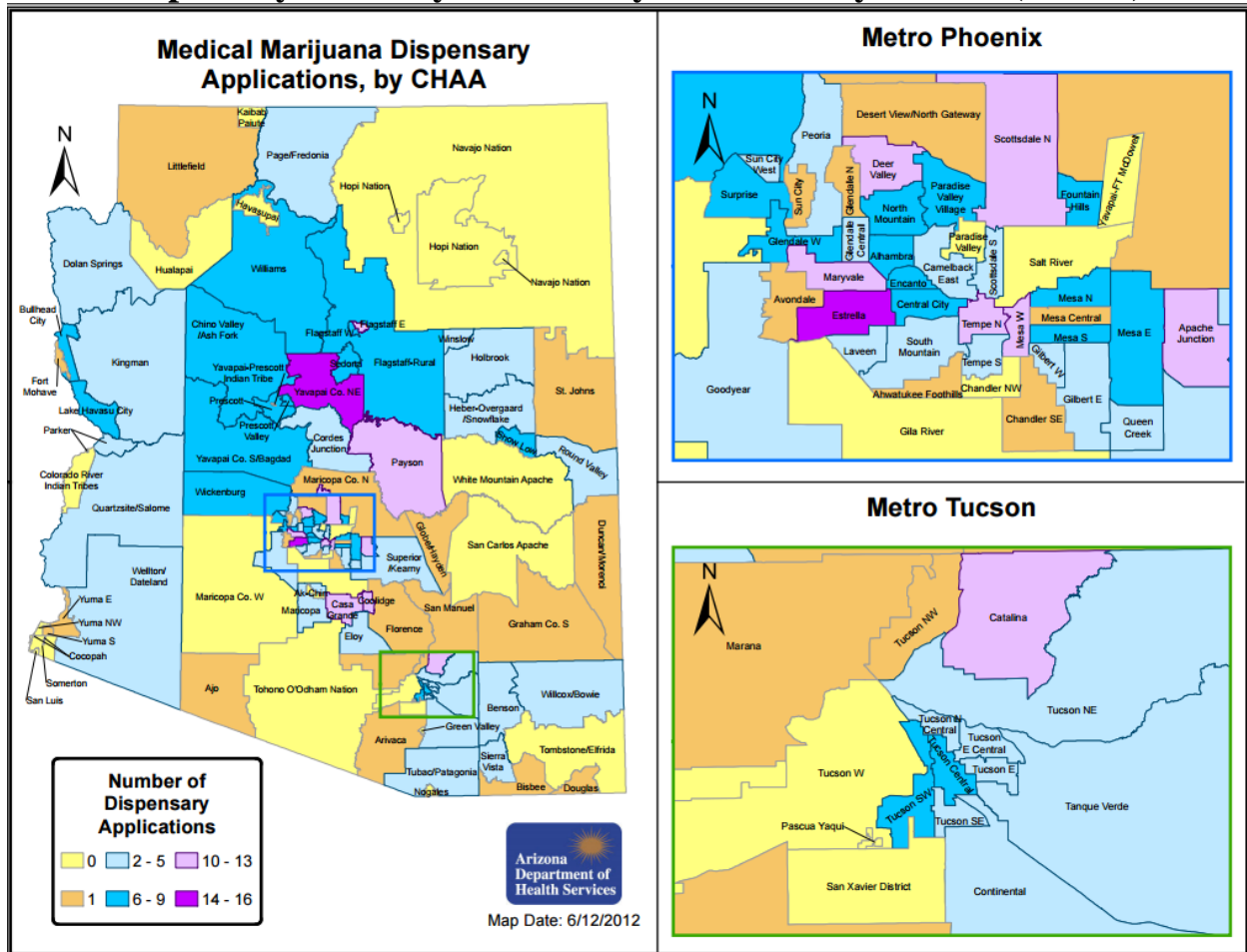
<a href="#"><u>36-2801</u></a>	Definitions
<a href="#"><u>36-2801.01</u></a>	Addition of debilitating medical conditions
<a href="#"><u>36-2802</u></a>	Arizona Medical Marijuana Act; limitations
<a href="#"><u>36-2803</u></a>	Rulemaking
<a href="#"><u>36-2804</u></a>	Registration and certification of nonprofit medical marijuana dispensaries
<a href="#"><u>36-2804.01</u></a>	Registration of nonprofit medical marijuana dispensary agents; notices; civil
<a href="#"><u>36-2804.02</u></a>	Registration of qualifying patients and designated caregivers
<a href="#"><u>36-2804.03</u></a>	Issuance of registry identification cards
<a href="#"><u>36-2804.04</u></a>	Registry identification cards
<a href="#"><u>36-2804.05</u></a>	Denial of registry identification card
<a href="#"><u>36-2804.06</u></a>	Expiration and renewal of registry identification cards and registration
<a href="#"><u>36-2805</u></a>	Facility restrictions
<a href="#"><u>36-2806</u></a>	Registered nonprofit medical marijuana dispensaries; requirements
<a href="#"><u>36-2806.01</u></a>	Dispensary locations
<a href="#"><u>36-2806.02</u></a>	Dispensing marijuana for medical use
<a href="#"><u>36-2807</u></a>	Verification system
<a href="#"><u>36-2808</u></a>	Notifications to department; civil penalty
<a href="#"><u>36-2809</u></a>	Annual report
<a href="#"><u>36-2810</u></a>	Confidentiality
<a href="#"><u>36-2811</u></a>	Presumption of medical use of marijuana; protections; civil penalty
<a href="#"><u>36-2813</u></a>	Discrimination prohibited
<a href="#"><u>36-2814</u></a>	Acts not required; acts not prohibited
<a href="#"><u>36-2815</u></a>	Revocation
<a href="#"><u>36-2816</u></a>	Violations; civil penalty; classification
<a href="#"><u>36-2817</u></a>	Medical marijuana fund; private donations
<a href="#"><u>36-2818</u></a>	Enforcement of this act; mandamus
<a href="#"><u>36-2819</u></a>	Fingerprinting requirements

### Areas within 25 miles of an Operating Medical Marijuana Dispensary



## Appendix C

### Dispensary Status by Community Health Analysis Area (CHAA)



## End Notes:

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<sup>1</sup> Wang GM, Roosevelt G, Heard K. Pediatric Marijuana Exposures in a Medical Marijuana State. JAMA, Pediatrics. 2013; 160(7):630-633.