Arizona Department of Health Services

The University of Arizona Mel and Enid Zuckerman College of Public Health

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Second Annual Medical Marijuana Report A.R.S. §36-2809

November 8, 2013

Health and Wellness for all Arizonans

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State of Arizona

Will Humble, Director
Arizona Department of Health Services

MISSION

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

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This publication can be made available in alternative format. Please contact the Arizona Department of Health Services at (602) 542-1025.

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Executive Summary

As required by Arizona Revised Statues (A.R.S.) §36-2809, the Arizona Department of Health Services (ADHS) has completed this second annual comprehensive 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, 2013, 21 states and the District of Columbia have enacted medical marijuana programs. Nine have been by ballot initiatives similar to Arizona, and eight 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 was to ensure the development and administration of the pre-eminent program in the country for medical use of marijuana. During this second program year, ADHS licensed the first dispensaries, and dispensaries opened. Program contractors held an educational conference for dispensary medical directors. The University of Arizona developed online education modules providing physicians with key Arizona Medical Marijuana Act (AMMA) components.

During state fiscal year July 2012 to June 2013, ADHS received a total of 41,076 applications of which 28,802 (~70%) were new applications, 9,370 (~23%) were applications for renewals, and the remaining applications were related to changes in demographics, caregivers, etc. There was a 1.5% increase in the total number of applications from the first state fiscal year. There were a total of 37,070 active cardholders, which included 36,416 qualifying patients and 654 caregivers. Of the total qualifying patients, approximately 28% (n = 10,357) were female qualifying patients, and of the total caregivers, 23% (n = 159) were female caregivers. From July 2012 to June 2013, approximately 49% (n = 17,681) of the qualifying patients and slightly over 87% (n = 573) of caregivers were authorized to cultivate. Qualifying patients per 1,000 residents were highest in Yavapai County (12.1), followed by Gila County (11.2) and Coconino (10.4), while Yuma (2.0), Santa Cruz (2.6), and Apache (3.5) had the lowest qualifying patients per 1,000 residents.

The majority of the qualifying patients (n = 29,741; ~82%) had one debilitating medical condition. The remaining 18% reported two or more conditions. Approximately 73% of the qualifying patients (n = 26,592) indicated “severe and chronic pain” as the only debilitating medical condition. Four hundred seventy-two (n=472) physicians provided certifications to 36,346 patients during this time-period. Twenty-five physicians certified approximately 70% of the patients.

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.[1] 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 avoid 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.[1] 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]

1.2 Overview of the Arizona Medical Marijuana Program Components

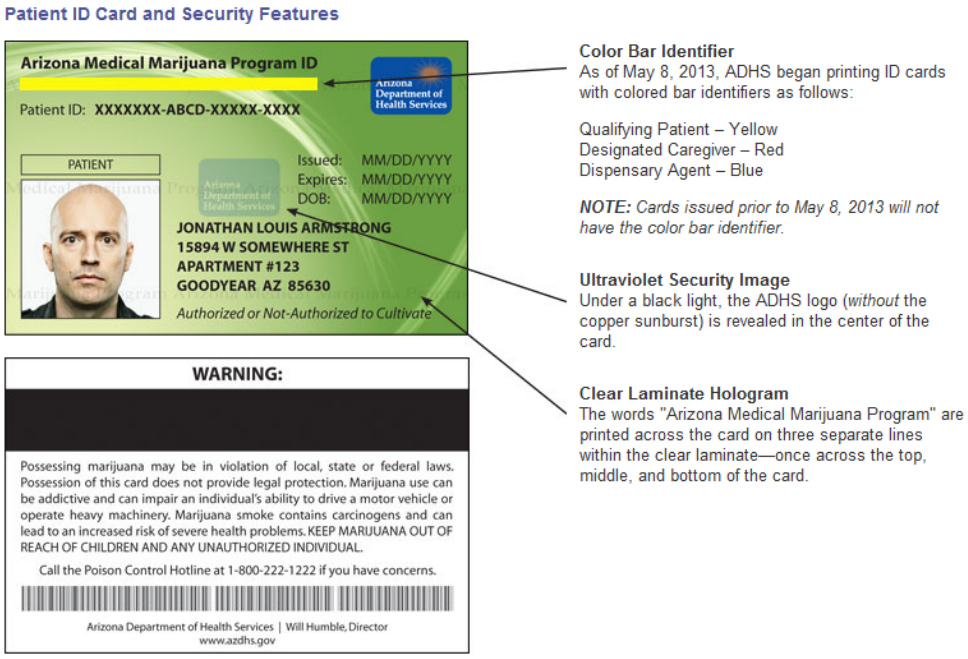
Licensing Authority

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.[1]

Qualifying Patient Applications for Registry Identification Cards

Qualifying patients (QP) 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 CG information (if the applicant is designating 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



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 25 radius miles of a 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

the end of June 2013 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 January 2012, ADHS reviewed several conditions from petitions received including Post Traumatic Stress Disorder (PTSD), Depression, Migraines, and Generalized Anxiety Disorder. ADHS held a public hearing on May 25, 2012 to collect public comments on these medical conditions. After consideration of the evidence submitted and the public hearing, ADHS rejected these petitions to add new qualifying conditions to the list of debilitating medical conditions. In July 2012 and January 2013, ADHS again accepted petitions, but no conditions moved forward to a public hearing.

In July 2013, ADHS received nine petitions. Three conditions (PTSD, Migraines, and Depression) moved forward to a public hearing. The outcome of this petition cycle will be reported in the next Annual Report. ADHS will next accept petitions in January 2014.

To assist in the decision-making process of adding debilitating medical conditions, ADHS contracted with the University of Arizona's College of Public Health (University) to conduct an evidence review on debilitating medical conditions submitted for consideration. These reports are posted on the ADHS website and were presented to the ADHS Medical Committee prior to their submission to the ADHS Director for his consideration. The University also established a system of surveillance for new studies on these four topics so that any new evidence will be located monthly and placed into a data bank.

In 2013, one study on a possible link between chronic marijuana use and cyclical vomiting syndrome was completed, finding a possible link but supported by low level evidence. Three other studies on safety have been initiated with completion projected for 2014. These are

exploring possible links between marijuana use and depression, marijuana use and lung disease, and the effects of marijuana on pregnancy outcomes.

In the fall of 2013, three conditions were submitted to the University to update the evidence reports of the 2012 adding debilitating medical conditions process for Post-Traumatic Stress Disorder (PTSD), Migraines, and Depression. These updates will be completed by the end of 2013.

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 diagnosis of the debilitating medical condition(s). Certifying physicians may be:

- a doctor of medicine (Allopath) 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 last 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 the potential risks and benefits of the medical use of marijuana
- Whether s/he has referred the QP to a dispensary

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

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.

Clinical Trials

When QPs apply for a Registry Identification Card, they may ask to be notified of any available clinical trials. Every quarter, ADHS sends an email to those individuals who have selected to receive this information. The email refers the QP to the United States National Institutes of Health (NIH) website for clinical trials (www.clinicaltrials.gov). NIH has developed a searchable online site to facilitate distribution of information on clinical trials. The database is searchable by disease or condition, by intervention (such as cannabis use), or by other factors such as the physical location of the study. Additionally, the University of Arizona has provided a list of available clinical trials which is posted on the ADHS website.

Qualifying Patient Newsletter

Beginning July 2013, ADHS developed and distributed a patient newsletter. The purpose of the newsletter was to provide information to patients on current medical marijuana activities, technical application tips, answers to frequently asked questions, and other informative topics. The newsletter also includes a list of open and operating dispensaries. Currently, ADHS prepares this newsletter on a monthly basis, and it is sent to active qualifying patient cardholders by mail and email.

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 designated caregiver (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 (CGs) 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 patient 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).

Registration 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 Dispensary Agent (DA).
- $5,000 for an initial dispensary registration certificate.
- $1,000 for a renewal dispensary registration certificate.
- $2,500 to change 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. For the first year, legal action delayed the dispensary application and registration process in Arizona. The Arizona Medical Marijuana Act and the supporting Administrative Code delineates the process and regulations for medical marijuana dispensary certification, policies, medical director responsibilities and functions, DA registration, and other restrictions and precautions.

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

ADHS may not issue more than one dispensary registration certificate for every ten licensed pharmacies in Arizona except if necessary to ensure ADHS issues at least one dispensary registration certificate in each county. The current maximum number of potential dispensaries in Arizona is 126.

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. ADHS held a lottery on August 7, 2012, and a total of 98 registration certificates were allocated out of the 486 applications received. The lottery process was shown live via streaming video through the ADHS website. ADHS utilized an outside auditing firm to oversee the lottery process. After the conclusion of the drawing, the outside auditing firm also provided a review of how ADHS applied these operating procedures.

Prior to opening, dispensaries that received dispensary registration certificates are required to submit an application to operate at least 60 days before the expiration date of the certificate (August 7, 2013). Additionally, Approval to Operate (ATO) applications submitted to ADHS must include elements such as site plans, floor plans, conditional use permits, special use permits, or certificates of occupancy. The dispensary must also receive an inspection during which ADHS will verify, among other requirements, the inventory control system; security; systems to establish, maintain, and ensure confidentiality of QP records; authorized personnel verification; product labeling and analysis; and cleanliness and sanitation.

Currently, of the 98 dispensary registration certificates issued, 85 dispensaries have received an Approval to Operate, 70 of which are operational. There are 25 approved cultivation sites. The remaining dispensaries are in the process of obtaining the necessary permits or certificates of occupancy from their local jurisdiction and/or completing the final steps before an inspection may take place.

Fifty-three dispensaries have applied for and obtained ADHS authorization to sell or dispense medical marijuana infused edible foods (edibles). Seven infusion kitchens have been approved, are operational, and supply edibles to dispensaries.

Operational dispensaries, cultivation sites, and, if applicable, infusion kitchens will receive routine compliance inspections as well as complaint inspections in response to allegations of violations with the AMMA and supporting Rules. Evidence of violations or noncompliance with the AMMA or Rules may result in the revocation of a dispensary's registration certificate. There have been no revocations to date.

Medical Marijuana Dispensary Superior Court Ruling

In September 2013, a Superior Court judge ruled some medical marijuana regulations are unreasonable. The system did not provide a formal appeal process for dispensary registration certificate holders who do not obtain the approval to operate within one year. Because of the ruling, renewal requests for all the current dispensaries (open or not) were approved.

To comply with the judge's ruling, ADHS plans to modify some medical marijuana program rules. The rule changes include creating an appeal process, eliminating the former "Year 2" selection criteria for dispensaries by focusing on vacant CHAAs rather than patient density, and removing the lifetime disqualification for those applicants that receive a dispensary registration certificate but do not open the dispensary.

ADHS is considering adjusting other rules including the current 25-mile cultivation restriction. If patients live within 25 miles of a dispensary, they cannot cultivate marijuana. ADHS plans to propose that the distance be measured by road miles instead of radius miles.

Once an initial draft is created, ADHS will solicit public comment and hold oral proceedings. ADHS expects modified rules by the fall of 2014.

Marijuana v. Cannabis

The ADHS Director's blog is used frequently to address various complex medical marijuana policy issues. One issue that ADHS is exploring is the difference between the definitions of marijuana and cannabis in two separate state laws; the difficulty lies with interpreting whether the use of edibles, extractions, and resins is legal. Appendix C is a blog dated August 30, 2013. This outlines the difference between definitions in the Arizona Medical Marijuana Act and Arizona's Criminal Code (Title 13).

Non-Profit Medical Marijuana Dispensary Agents

Non-Profit Medical Marijuana Dispensary Agents (DAs) are principal officers, board members, employees, or volunteers of non-profit medical marijuana dispensaries and must be at least 21 years of age. Dispensary Agents 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 and analysis
- 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 two 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.

From July 1, 2013 to June 30, 2013, there were 492 DA Registry Identification Cards issued.

Appendix D provides an overview of the revenue and expenditures for state fiscal years 2012 and 2013.

Program Project Contracts and Interagency Service Agreements

Since the program's inception, ADHS has partnered with external agencies, private firms, and institutions to assist in program development and execution. Below is a summary of some of the major work projects associated with the initial development and continued implementation of the medical marijuana program.

- An Invitation for Bid (IFB) was conducted in 2011 to secure Medical Marijuana Registration Cards, Supplies and Equipment. The Contract issued subsequent to the IFB was for the purchase of pre-printed card stock, color printers, holographic image laminate overlay, software to integrate with the ADHS ITS database, technical support, equipment maintenance, training, and printer supplies. The Contract was awarded to Electronic Security Concepts on March 21, 2011. It is valid through March 20, 2014, and has two one-year extensions available. To date, ADHS has encumbered $227,342.79.
- An Interagency Service Agreement (ISA), ADHS12-017291, for Research and Evaluation Services was executed with the University of Arizona College of Public Health on February 12, 2012 for five years. The intent of the ISA is to provide agency-wide services, but currently the focus is on medical marijuana. The University assists with review of clinical trials, review and evaluation of requests to add new debilitating medical conditions, preparation of Continuing Medical Education curriculum for physicians related to medical marijuana, and review and evaluation of medical marijuana data and preparation of the Annual Report. Amendment Two, executed August 5, 2013, increased the budget and tasks for Continuing Medical Education and added a new task: conduct a Cochrane Systematic Review of Medical Marijuana using an approved protocol over a period of one calendar year. The value of the medical marijuana portion of the ISA is $310,000. Amendment Three, valued at an additional $300,000, is currently in draft. The new tasks will include Continuing Medical Education on the Arizona Medical Marijuana law through video production; building partnerships with MDs, DOs, Homeopaths and Naturopaths through various marketing outreach techniques; developing a Speakers Bureau with training and targeted messaging; and Evaluation Tools to measure and monitor the effectiveness of this approach.
- An ISA, HS352036, with the Arizona Board of Pharmacy was executed on September 21, 2012 for five years (if funding is available). The ISA funds upgrading of the Controlled Substances Prescription Monitoring Program database to improve physicians' ability to register online and check the patient's profile on the database. The funds allow for one (1) Full-time Equivalent (FTE) Pharmacist to manage data and provide research, analysis, ad hoc queries, and expanded reporting, including necessary office equipment. The current amount encumbered for this fiscal year is $187,075. The decrease reflects updates to the system completed in FY2012.
- An ISA, ADHS13-028141, with The Center for Toxicology and Pharmacology Education and Research (CTPER) was sent to the University of Arizona this October for review and

input. This ISA was executed November 18, 2012. The intent is to provide a collaborative venue between the Poison and Drug Information Centers at the University of Arizona (Contractor) College of Pharmacy and Banner Good Samaritan Medical Center in Phoenix. The objective of the ISA is a multi-organizational collaborative center of excellence to provide expertise, education and research in the areas of medical toxicology, pharmacology, and medication safety utilizing the 24-hour access of specially trained healthcare professionals to provide medication and patient safety information to the licensed users and dispensers in Arizona. The current budget is $900,000 per year.

Arizona Medical Marijuana Program Outside Counsel and Lawsuits

The majority of the medical marijuana program's legal matters are handled by the Arizona Attorney General's Office (AGO). However, in order to avoid the potential of overtaxing the limited resources of ADHS and AGO, in August 2012, ADHS made a request for the appointment of outside counsel. The appointment was requested to allow outside counsel to assist ADHS with the numerous medical marijuana-related administrative appeals and lawsuits, as well as possibly represent ADHS in informal settlement conferences, administrative hearings, and court proceedings. Therefore, in late August 2012, through the AGO, the law firm Sherman & Howard, L.L.C. was appointed as outside counsel to ADHS.

Several lawsuits have been filed concerning the implementation of the Arizona Medical Marijuana Act. A scanned copy of the complaint for each lawsuit is available on the ADHS website. As of the date of this Annual Report, the lawsuits include:

- *Welton v. State of Arizona*: CV2013-014852
- *Keith Floyd and Daniel Cassidy v. ADHS*: CV2013-011447
- *Total Health & Wellness v. ADHS*: CV2013-005901
- *Compassionate Care v. ADHS*: CV2012-057041
- *Charise Voss Arfa v. ADHS*: CV2012-014816
- *Johanna Dispensaries v. ADHS*: LC2012-000544
- *Arizona Organix v. ADHS*: CV2012-054733
- *White Mountain Health Center v. ADHS*: CV2012-053585
- *Arizona v. 2811*: CV2011-014508
- *Sobol v. Arizona*: CV2011-053246
- *Compassion First v. Arizona*: CV2011-011290
- *Elements v. ADHS*: CV2011-011288
- *Serenity v. ADHS*: LC2011-000410

- *Arizona v. USA*: 11-01072

1.3 Comparison of Arizona's Medical Marijuana Act with Other States and Districts

Arizona was the 14th state to pass medical marijuana legislation. Including the affirmative defense legislation of Maryland, 21 other states and the District of Columbia (DC) have adopted legislation.[3] Since the 1970's, numerous cases of marijuana possession and use for medicinal purposes proceeded through the courts with varying outcomes.[2] In 1996, with a 56% majority vote on a ballot initiative, California was the first state to pass legislation allowing for medical use of marijuana. At this time, an additional four states have legislation that has been introduced or proposals in process.[12] A summary is provided in Table 1.

Table 1. *Summary of U.S. States and Districts with medical marijuana legislation*[3-13]

Year	Passage Margin	State Passing Medical Marijuana Legislation
1996	56%	California
1998	AK - 58% DC - 69% NV - 65% OR - 56% WA - 59%	Alaska; District of Columbia - intervention by Congress -law did not go into effect until July 2010; Nevada - legislation additions in 2000 and 2013[6]; Oregon; Washington
1999	ME - Legislature	Maine – affirmative defense legislation broadened by public law in 2009[4]
2000	CO - 54% HI - Legislature	Colorado; Hawaii
2003	Legislature	Delaware - limited affirmative defense legislation broadened in 2011
2004	MT - 62% VT - Legislature	Montana - additional restrictions added in 2011; Vermont
2006	RI - Legislature	Rhode Island[7]
2007	NM - Legislature	New Mexico[5]
2008	62%	Michigan
2009	61%	Maine – passed public medicinal use legislation, fully clarified and implemented program in 2010[4]
2010	AZ - 50.1% NJ - Legislature	Arizona; New Jersey
2011	DE - Senate MD - General Assembly	Delaware, cards to be issued in 2012; dispensaries in 2013; Maryland affirmative defense legislation, in 2013 passed allowing teaching hospitals to provide marijuana from state-licensed growers
2012	CO – 54% CT – House 96-51; Senate 21-13 WA – 59% MA – 63%	Colorado – Legalization not limited to medical usage Connecticut (6/1/12)[2] Washington – Legalization not limited to medical usage Massachusetts – Legalization of “compassionate use”[13]

2013	IL- House 61-57; Senate 35-21 NH – House 284-66; Senate 18-6	Illinois New Hampshire
States with proposed Medical Marijuana Legislation as of 8/07/13[12]: Minnesota; New York; Ohio; Pennsylvania		
States with Medical Marijuana Legislation that failed in 2012[2]: Alabama; Iowa; Florida; Kansas; Kentucky; (Maryland – broader legislation); Mississippi; Missouri; North Carolina; Oklahoma; South Dakota; West Virginia		

Within the 21 States and District of Columbia with legislation, the acts are variable, including primary issues such as the entity that oversees the programs, use of patient or caregiver (CG) identification cards, physician and/or CG oversight, cultivation and dispensary limitations, qualifying conditions for use, and protection limits and access.[3] The legislation passed in Maryland does not set up a medical marijuana program per se, but provides an affirmative defense and potential sentencing mitigation for limited possession. A physician's certification is not required. Maryland passed legislation in 2013 that allows teaching hospitals to set up programs providing medical marijuana from state-licensed growers or the federal government in the unlikely event the federal government would license or administer a marijuana dispensary program. Within the legislation passed in California, physicians can recommend marijuana use for any condition. In all other jurisdictions with legislation, physicians must certify patients for medical marijuana use for one or more of a set list of qualifying conditions.[3]

All states with the exceptions of Maryland and Washington utilize or are creating a system to issue identification cards for medical marijuana QPs and CGs, if appropriate. For patients in California and Maine, identification cards are optional.[3] The administrative entity that has the authority to issue identification cards varies among the states. For the majority of states, a Department of Health entity is the authority. However, for Hawaii and Vermont, it is the Department of Public Safety, and for Michigan, it is the Department of Licensing and Regulatory Affairs.[3]

While implementation of Medical Marijuana programs continues to develop, it is possible to summarize key aspects regarding: whether QPs can cultivate marijuana, whether medical marijuana dispensaries will be established and used, whether QPs and/or CGs are required to obtain identification cards, and whether identification cards from other states will be recognized. Table 2 summarizes this information along with whether dispensaries are subject to taxes.

Table 2 Summary of medical marijuana program components across the various States and District of Columbia.[2-4*]

State	Can cultivate	Dispensaries	Taxed	ID Cards	Recognize out-of-State cards
Alaska	Y	N	N/A	Y	N
Arizona	Y	Y	Sales Tax	Y	Y
California	Y	Cooperatives	States Sales & Local	Y	N
Colorado	Y	Y	Sales Tax	Y	N
Connecticut	N	Y – only pharmacists can apply	No Information Available	Y	N
Delaware	N	Y (on hold)	If Revenue >1.2mil	Y	Y but need Delaware ID
D.C.	N	Y	Sales Tax	Y	N
Hawaii	Y	N	N/A	Y	N
Illinois	N	Y	TBD	Y	N
Maine	Y	Y	Sales Tax	Y	Y
Massachusetts	Y - limited circumstance	Y	No	Y	N
Maryland	N	N - teaching hospitals administer	N/A	N	N
Michigan	Y	N - not state but local are possible	N/A	Y	Y
Montana	Y	N-initially unlimited pt/CG; now capped @3	N/A	Y	N
Nevada	Y	Y	Sales + 2% excise	Y	Y - will change 4/2016
New Hampshire	Y	Y	TBD	Y	Y
New Jersey	N	Y	sales tax	Y	N
New Mexico	Y with special permission	Y	gross receipts	Y	N
Oregon	Y @ registered sites	N	N/A	Y	N
Rhode Island	Y	Y	Sales Tax + 4% Surcharge	Y	Y
Vermont	Y	Y	No	Y	N
Washington	Y	Y	No	N	N

**For states with dispensaries, the question of taxation is "N/A" meaning Not Applicable. "TBD" is "to be determined" as the medical marijuana programs in these states are still under development.*

Qualifying Conditions

Physicians play an important role in either recommending the medical use of marijuana or certifying that a patient has one or more of the serious conditions or symptoms specified in the legislation/initiative to qualify for its use in every state except Maryland (affirmative defense legislation only). An affirmative defense in such a situation would allow someone charged with criminal possession/use of marijuana to present evidence of medical qualifications to avoid conviction.[2] In California, physicians can recommend medical marijuana for one or more of several listed conditions and "...any other illness for which marijuana provides relief."

Additional legislation in the states and District of Columbia specify requirements for minor (under 18 years of age) patients. In Washington, the parent or legal guardian is responsible for a minor patient. In Alaska, Oregon, Maine, Hawaii, Nevada, Rhode Island, New Mexico, New Jersey, and the District of Columbia, the minor only qualifies with parent/legal guardian consent and if the adult controls the dosage, acquisition, and frequency of use.[3] In Vermont, the minor patient must have a parent or guardian also sign the application. Arizona is similar to Colorado, Montana, and Michigan in requiring the minor to have two physician authorizations along with parental consent.[1-3] Additionally, the adult must control the dosage, acquisition, and frequency of use. In Delaware, all medical marijuana patients must be 18 years of age or older. As Maryland does not currently have a medical marijuana program per se, the potential for legal medicinal marijuana use among minors is unclear.

In November of 2012, Colorado and Washington passed voter- initiative legalization of marijuana use among adults aged 21 years and older not limited to medical usage[14-15]. Initiative 502 in Washington passed with a 55.7% majority[14] while Colorado's Amendment 64 garnered 53% of the vote.[15] Both initiatives lead to the development of comprehensive production and revenue rules. It is unclear at this time whether patient registration will decrease in Colorado following the recent legalization of adult marijuana use. Washington did not develop a patient registration system.

Debilitating and qualifying conditions also vary among states and the District of Columbia that have enacted medical marijuana programs. Table 3 on the following page provides a summary of qualifying debilitating conditions by state/District. Although multiple conditions are stated, some categories can be non-specific such as the "chronic / intractable / severe pain" condition. Connecticut, which is still in the process of implementing its medical marijuana program after passing legislation in 2012, is the sole jurisdiction that does not specifically include "pain" as one of the debilitating conditions.[16]

Table 3. Comparison of qualifying conditions among States and Districts with medical marijuana legislation[2-7, 16]

Condition	AK	AZ	CA	CO	CT	DE	DC	HI	IL	MA	ME	MD	MI	MT	NH	NV	NJ	NM	OR	RI	VT	WA
AIDS	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
ALS		X				X			X	X	X		X		X		X	X				
Alzheimer's		X				X			X		X		X		X				X	X		
Anorexia			X												X							
Arthritis			X																			
Cancer	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
Cachexia	X	X		X	X	X		X	X		X	X	X	X	X	X	X	X	X	X	X	X
Chronic/intractable /Severe Pain	X	X	X	X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cirrhosis						X																
Crohn's		X			X			X	X	X	X		X	X	X		X	X		X		X
Epilepsy		X	X		X			X			X		X				X	X	X			X
Glaucoma	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X	X	X		X
Hepatitis C		X							X	X	X		X		X			X		X		X
HIV	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
Hospice admitt / terminal ill														X			X	X				
Inflammatory bowel disease																	X					

Migraine			X																			
MS	X	X		X	X		X	X	X	X	X		X	X	X		X	X	X	X	X	X
Muscular Dystrophy									X						X		X					
Muscle spasms	X	X	X	X		X		X			X	X	X			X	X		X	X		
Nail patella											X		X									
Nausea	X	X	X	X		X		X	X		X	X	X	X		X	X	X	X	X	X	X
Pancreatitis									X						X							
Parkinson's					X					X												
Peripheral neuropathy														X				X				
PTSD					X	X												X	X			
Seizures	X	X	X	X		X		X	X		X	X	X	X	X		X		X		X	X
Spasticity/Spinal cord damage					X			X	X		X		X		X	X	X	X	X	X		X
Treat. w/ AZT, chemo, protease inhibitors, or radiotherapy							X				X											
Intractable vomiting														X			X	X				X
Other: Doctor states			X							X							X					

Methodology

During state fiscal year July 2012 to June 2013, ADHS received 41,076 applications, of which 28,802 (~70%) were new applications, 9,370 (~23%) were application for renewals, and the remaining applications were related to changes in demographics, caregivers, etc. There were 37,070 active cardholders, which included 36,416 qualifying patients and 654 caregivers. 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 2013 (i.e., July 1, 2013 to June 30, 2013) and is based on all active cardholders, which are unique individual counts.

Data on all cardholders (i.e., QPs and CGs) 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 1st 2012 to June 30, 2013 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 37,070 records that included both QPs (n = 36,416) and CGs (n = 654) 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);
- Entity type (i.e. QP, QP minor, CG, CG minor);

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

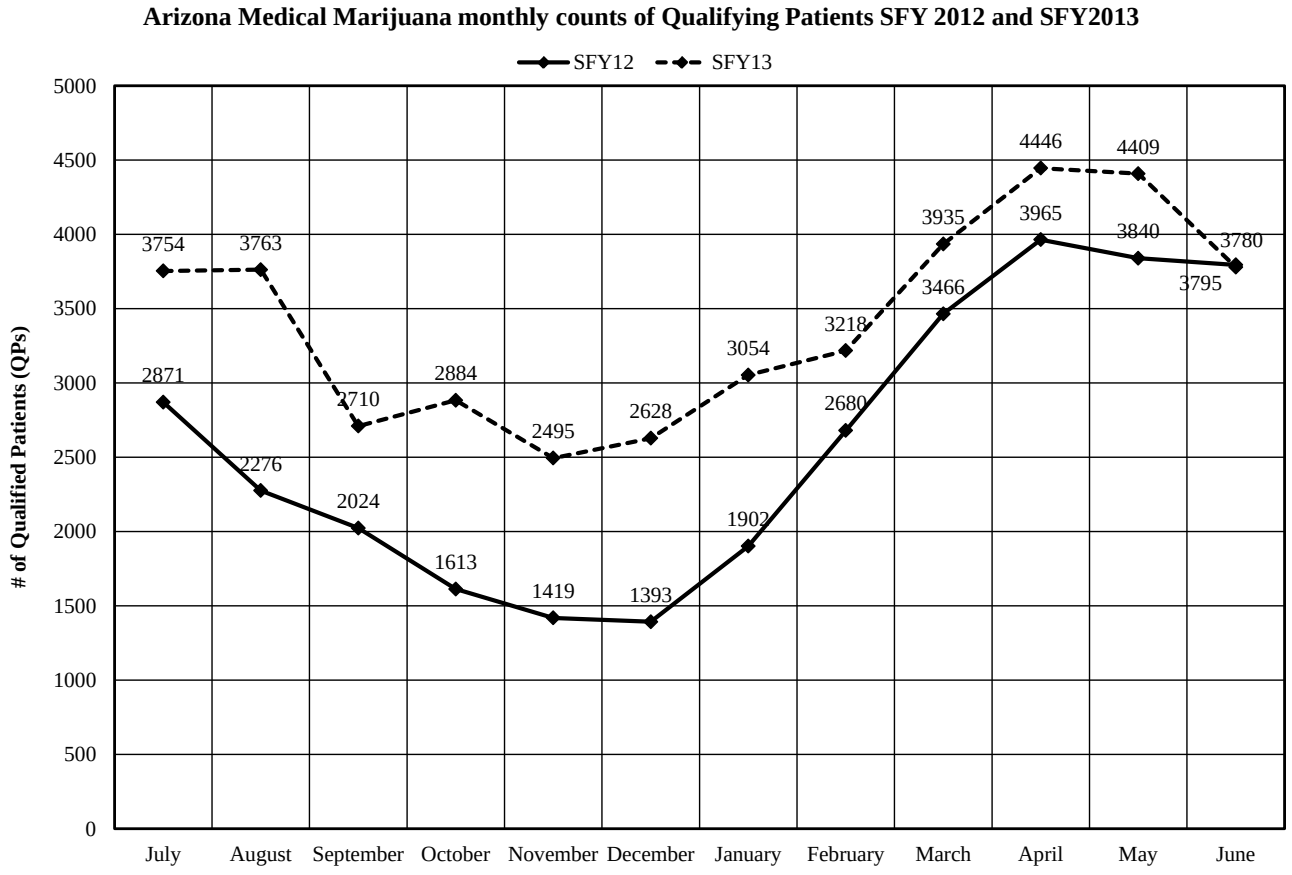
2.3 Analytic Procedures

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 2012 were obtained from ADHS vital statistics.[8] ADHS estimated 'physician certification rates' based on data obtained from the Arizona Medical Board, Arizona Board of Naturopathic Medicine, and Arizona Board of Homeopathic Medicine for all active licenses as of June 30, 2013. The denominator is comprised of all qualified physician certifiers of medical marijuana as defined in A.R.S. §36-2801(12). During this time-period, there were a total of 25,664 physician certifiers in the four categories: Doctor of Medicine (MD; n = 22,369), Doctor of Osteopathic Medicine (DO; n = 2,660), Doctor of Naturopathic Medicine (NMD; n = 1,765), and Doctor of Homeopathic Medicine (HMD; n = 84). Physician certification rates were estimated using actual number of physicians providing certifications for qualifying medical marijuana patients (i.e., numerator) divided by the total number of physicians in the population that could provide a certification in that specific category or specialization.

Results

The results discussed in this report provide an overview of the active cardholders from July 1, 2012 to June 30, 2013, which is referred to as 2013 State Fiscal Year. During this time-period, there were 37,070 active cardholders, of which 36,416 qualifying patients and 654 were caregivers. During this time-period, 492 dispensary agency cards were issued. An individual can be a qualified patient, designated caregiver and/or a dispensary agent at any given time. Figure 1 and Figure 2 provide an overview of the monthly applications of active cardholders during the two state fiscal years.

Figure 1. *Arizona Medical Marijuana qualifying patient monthly applications of active cardholders from June 2012 through June 2013*

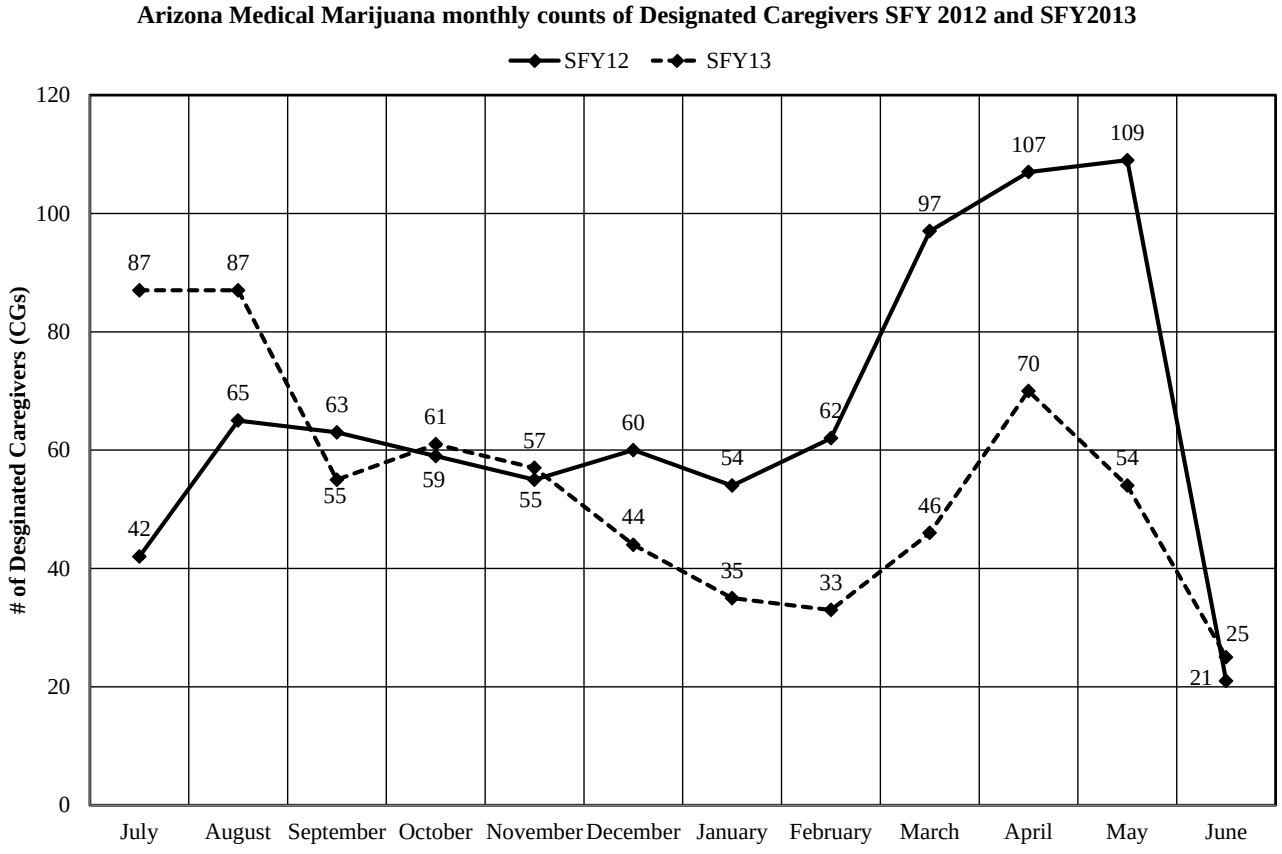


Note: State Fiscal Year (SFY) comprises July 1st to June 30th time-periods. For purposes of comparability 2012 counts were combined and may differ from first AMMA report.

It is evident from Figure 1 that there is somewhat of a cyclical action in the number applications of cardholders for QPs. There was a 1.5% increase in the total number of applications from the first year of the program.

A different pattern is evident for designated CGs (see Figure 2). 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. The total number of cardholders declined from SFY12 to SFY13 by approximately 18%.

Figure 2. *Arizona Medical Marijuana designated caregiver monthly applications of active cardholders during June 2012 to June 2013*



Note: State Fiscal Year (SFY) comprises July 1st to June 30th time-periods. For purposes of comparability 2012 counts were combined and may differ from first AMMA report.

The following sections detail the characteristics of QPs, CGs, and certifying physicians.

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 4 on the following page outlines the demographic characteristics of QPs and CGs by age and gender. Twenty-eight percent of the QPs were females (n = 10,357) and 23% of the CGs were females (n = 153) while

a majority of the QPs and CGs were males. On average, females were more likely to be older compared to males, irrespective of whether they were a QP and/or a CG.

Table 4. *Demographic characteristics of qualifying patients and caregivers*

Age groups	Qualifying Patients (N = 36,416)		Caregivers (N = 654)	
	Female	**Males**	**Female**	**Male**
<18 years	9 (0.1%)	28 (0.1%)	NA	NA
18-30 years	2,065 (19.9%)	7,795 (29.9%)	24 (15.7%)	140 (27.8%)
31-40 years	1,874 (18.1%)	5,535 (21.2%)	43 (28.1%)	144 (28.6%)
41-50 years	2,058 (19.9%)	4,291 (16.5%)	35 (22.9%)	106 (21.0%)
51-60 years	2,768 (26.7%)	4,853 (18.6%)	38 (24.8%)	75 (14.9%)
61-70 years	1,296 (12.5%)	3,078 (11.8%)	11 (7.2%)	33 (6.5%)
71-80 years	229 (2.2%)	430 (1.7%)	2 (1.3%)	3 (0.6%)
81+ years	58 (0.6%)	49 (0.2%)	0	0
State Totals	**10,357 (28.4%)**	**26,059 (71.6%)**	**153 (23.4%)**	**501 (76.6%)**
Mean (*SD*)*	**45.4 (*14.6*)**	**41.5 (*15.1*)**	**43.8 (*11.8*)**	**39.8 (*12.3*)**

Note: An individual can be both a qualifying patient and a designated caregiver
*Average age of qualifying patients and caregivers was significantly higher for females compared to males.

Approximately, 16% of the QPs (n = 5,467) applied under SNAP eligibility for a reduced fee for a card during this time-period. Of those who were SNAP eligible, the majority (n = 3,360 or 61%) were males.

Figures 3 and 4 on the following pages provide an overview of the cultivation status by card type for state fiscal years 2012 and 2013 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 2012 to June 2013, approximately 49% (n = 17,681) of the QPs and almost 87% CGs (n = 573) were authorized to cultivate.

A primary component of the AMMA implementation became reality during 2012 with the physical establishment and opening of Medical Marijuana Dispensaries. Since the Arizona legislation disallows cultivation within a 25-mile radius of a dispensary, the proportion of active cardholders authorized to cultivate marijuana for medicinal purposes should be different for two time-periods. These figures indicate the expected effect for the 25-mile radius rule. While there is a substantial decline in authorization to cultivate among QPs, the effect is less evident among CG's. Appendix C depicts the number of open and operating dispensaries by the end of June 2013 and the 25-mile radius cultivation restriction for qualifying patients (and subsequently, designated caregivers).

Figure 3. *Differences in cultivation status for qualifying patients and designated caregivers by state fiscal years 2012-2013*

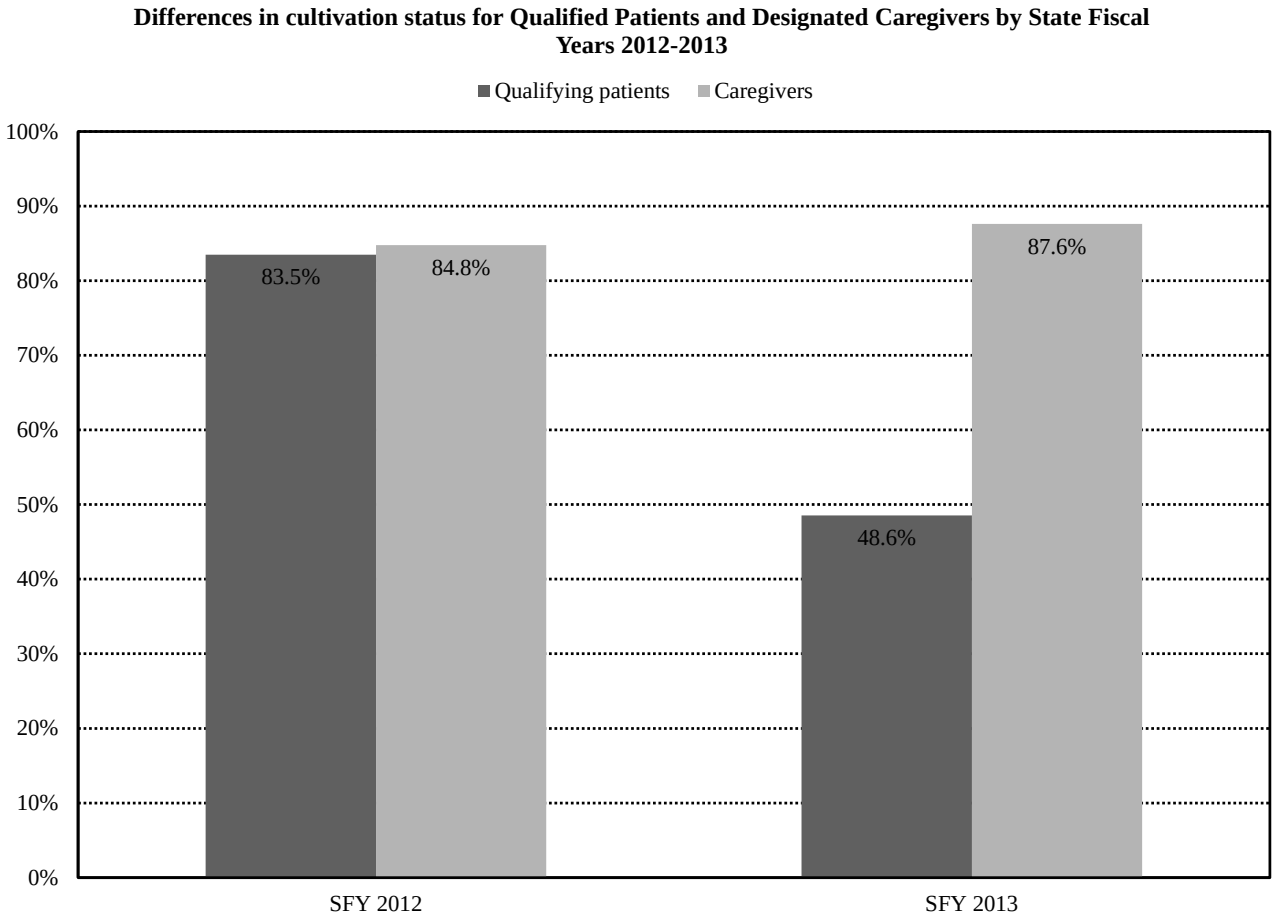


Figure 4. *Arizona Medical Marijuana qualifying patients' and designated caregivers' cultivation status by gender*

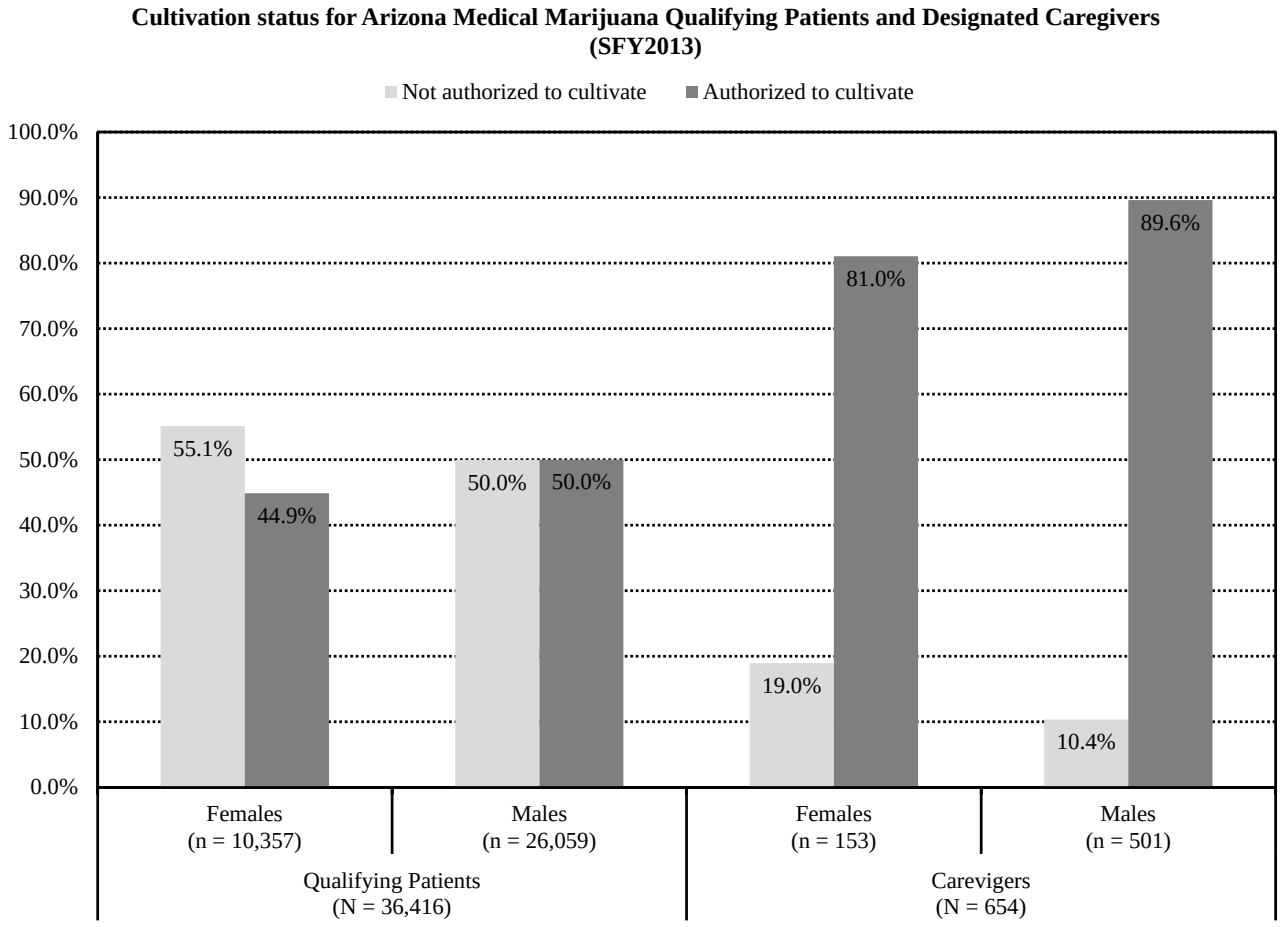


Table 5 provides an overview of QPs and CGs by county of residence along with their cultivation status. Expressing the number of medical marijuana QPs as a proportion of the population in the county is a more appropriate reflection of the prevalence of cardholders than a simple proportion. For instance, while Maricopa County had the largest percentage of QPs (n = 21,901 ~76%), followed by Pima County (n = 4,082; ~14%), when adjusted for the total population (as a per capita measure), Maricopa has 5.6 QPs per 1000 residents and Pima has 4.1 CGs per 1000 residents. This is more reflective of the total population.[8]

Per capita QPs were highest in Yavapai County (12.1 per 1000 residents), followed by Gila (11.2 per 1000 residents), and Coconino (10.4 per 1000 residents), while Yuma (2.0 per 1000 residents), Santa Cruz (2.6 per 1000 residents), and Apache (3.5 per 1000 residents) had the lowest per capita QPs among the counties.

Similarly, QPs authorized to cultivate were highest in Gila County (9.6 per 1000 residents), followed by Yavapai County (8.7 per 1000 residents), and Mohave (7.3 per 1000 residents), followed closely by Coconino (6.6 per 1000 residents).

Table 5. *Arizona medical marijuana qualifying patients, designated caregivers, and the qualifying patient cultivation status by county of residence*[8]

Residence County	Estimated Population in 2012	Qualifying Patients (QPs)			Caregivers			Authorized to cultivate		
		Counts	Percent	QPs per 1000 residents	Counts	Percent	Caregivers per 1000 residents	Counts	Percent	Cultivation status per 1000 residents
Apache	72,310	250	0.9%	3.46	3	0.4%	0.04	204	81.6%	2.82
Cochise	130,753	545	1.9%	4.17	4	0.5%	0.03	302	55.4%	2.31
Coconino	134,313	1,394	4.8%	10.38	31	3.7%	0.23	890	63.8%	6.63
Gila	53,627	602	2.1%	11.23	7	0.8%	0.13	517	85.9%	9.64
Graham	37,313	151	0.5%	4.05	3	0.4%	0.08	132	87.4%	3.54
Greenlee	8,599	56	0.2%	6.51	0	0.0%	0.00	48	85.7%	5.58
La Paz	20,902	127	0.4%	6.08	2	0.2%	0.10	106	83.5%	5.07
Maricopa	3,884,706	21,901	75.6%	5.64	430	52.0%	0.11	8,612	39.3%	2.22
Mohave	203,072	1,791	6.2%	8.82	15	1.8%	0.07	1,475	82.4%	7.26
Navajo	107,922	682	2.4%	6.32	11	1.3%	0.10	604	88.6%	5.60
Pima	990,380	4,082	14.1%	4.12	71	8.6%	0.07	1,352	33.1%	1.37
Pinal	389,192	1,641	5.7%	4.22	28	3.4%	0.07	1082	65.9%	2.78
Santa Cruz	48,725	126	0.4%	2.59	5	0.6%	0.10	89	70.6%	1.83
Yavapai	211,582	2,559	8.8%	12.09	43	5.2%	0.20	1,848	50.5%	8.73
Yuma	205,174	408	1.4%	1.99	0	0.0%	0.00	369	72.2%	1.80
Unknown		101	0.3%		1	0.1%		51	90.4%	
State Totals	**6,438,178**	**36,416**	**100**	**5.66**	**654**	**100**	**0.10**	**17,681**	**48.6%**	**2.75**

3.2 Nature of Debilitating Medical Conditions among Qualifying Patients

As per AMMA requirements, ADHS collects information about 13 debilitating medical conditions: (i) cancer; (ii) Hepatitis C; (iii) cachexia; (iv) seizures; (v) glaucoma; (vi) sclerosis; (vii) Alzheimers; (viii) severe and chronic pain; (ix) muscle spasms; (x) HIV; (xi) AIDS; (xii) Crohn's disease; and (xiii) nausea. Certifying physicians can select more than one of these 13 conditions. Table 6 on the following page provides an overview of the unique debilitating medical conditions of the QPs during this time-period.

The majority of the qualifying patients (n = 29,741; ~82%) had one debilitating medical condition with the remaining 18% reporting two or more conditions. Approximately 73% of the qualifying patients (n = 26,592) indicated “severe and chronic pain” as the only debilitating medical condition. Cancer was the second largest unique debilitating condition (n = 744; 2.0%), followed by Hepatitis C (n = 580; 1.6%).

With regards to multiple conditions, severe and chronic pain in combination with one other debilitating medical condition accounted for 15% of the total (n = 5,469) and combinations without mention of severe and chronic pain accounted for approximately 1% (n = 386) of all the debilitating medical conditions. In essence, 90% of all debilitating medical conditions had severe and chronic pain as a unique and/or multiple condition.

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

Nature of Debilitating Conditions	Qualifying Patients	
	Count	**Percent**
Unique conditions[†]	**29,741**	**81.7%**
Cancer	744	2.0%
Hepatitis C	580	1.6%
Cachexia	40	0.1%
Seizures	251	0.7%
Glaucoma	325	0.9%
Sclerosis	10	0.0%
Alzheimers	7	0.0%
Severe and chronic pain	26,592	73.0%
Muscle Spasms	467	1.3%
HIV/AIDS	190	0.5%
Crohn's Disease	194	0.5%
Nausea	341	0.9%
Multiple conditions[‡]	**6,675**	**18.3%**
Severe and chronic pain in combination with one other debilitating condition	5,469	15.0%
Severe and chronic pain in combination with two other debilitating condition	725	2.0%
Severe and chronic pain in combination with three other debilitating condition	88	0.2%
Severe and chronic pain in combination with four other debilitating condition	7	0.0%
Combinations without mention of severe and chronic pain	386	1.1%
State Totals	**36,416**	**100%**

[†]Conditions are unique as in, of the 29,741 qualifying patients 744 indicated cancer as the only debilitating medical condition.

[‡]Multiple conditions are two or more conditions specified by a qualified patient as in, of the 29,741 qualifying patients 6,675 indicated having at least two or more of the listed debilitating conditions.

With regards to debilitating medical conditions, age and gender play a significant role, and the following paragraphs detail the nature of debilitating conditions for QPs from the July 2012 to June 2013 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 5 and 6 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 younger (average age 42.8 $\pm$ 15.0 years compared to 44.2 $\pm$ 15.0 years). Almost 83% of the males indicated one unique debilitating condition compared to 78% of females, while nearly 22% of females indicated having two or more debilitating conditions compared to 17% of males. In general, females were 32% more likely than males to indicate two or more debilitating conditions, and the difference was statistically significant with $\chi^2 = 93.79$ (1) $p < 0.001$.

Figure 5. *Debilitating medical conditions by age of the qualifying patient*

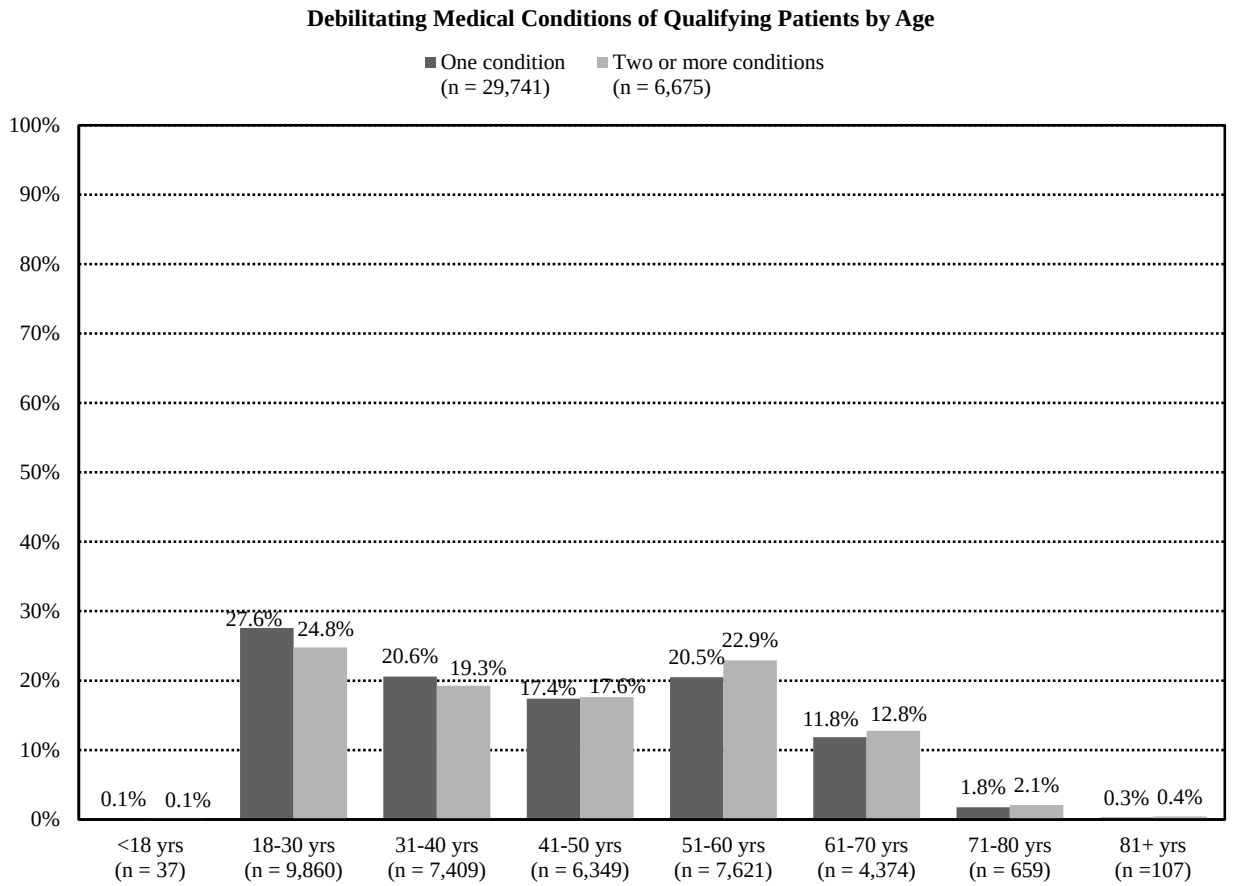


Figure 6. *Debilitating medical conditions by gender of the qualifying patient*

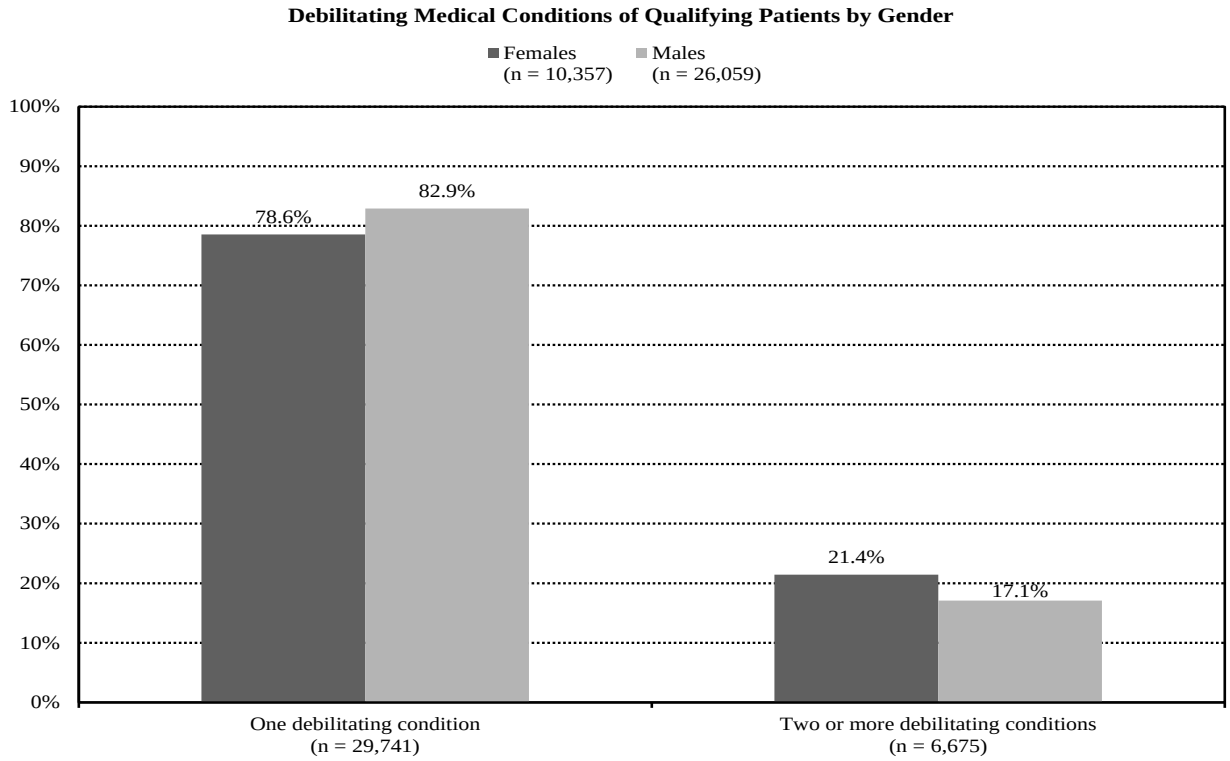


Figure 7 provides an overview of debilitating conditions with and without any mention of severe and chronic pain by age. It is evident that those with severe and chronic pain were more likely to be younger (average age 42.4 years $\pm$ 14.9 years) than older adults (average age 49.3 years $\pm$ 15.3 years).

Figure 7. *Debilitating medical condition with and without mention of severe and chronic pain*

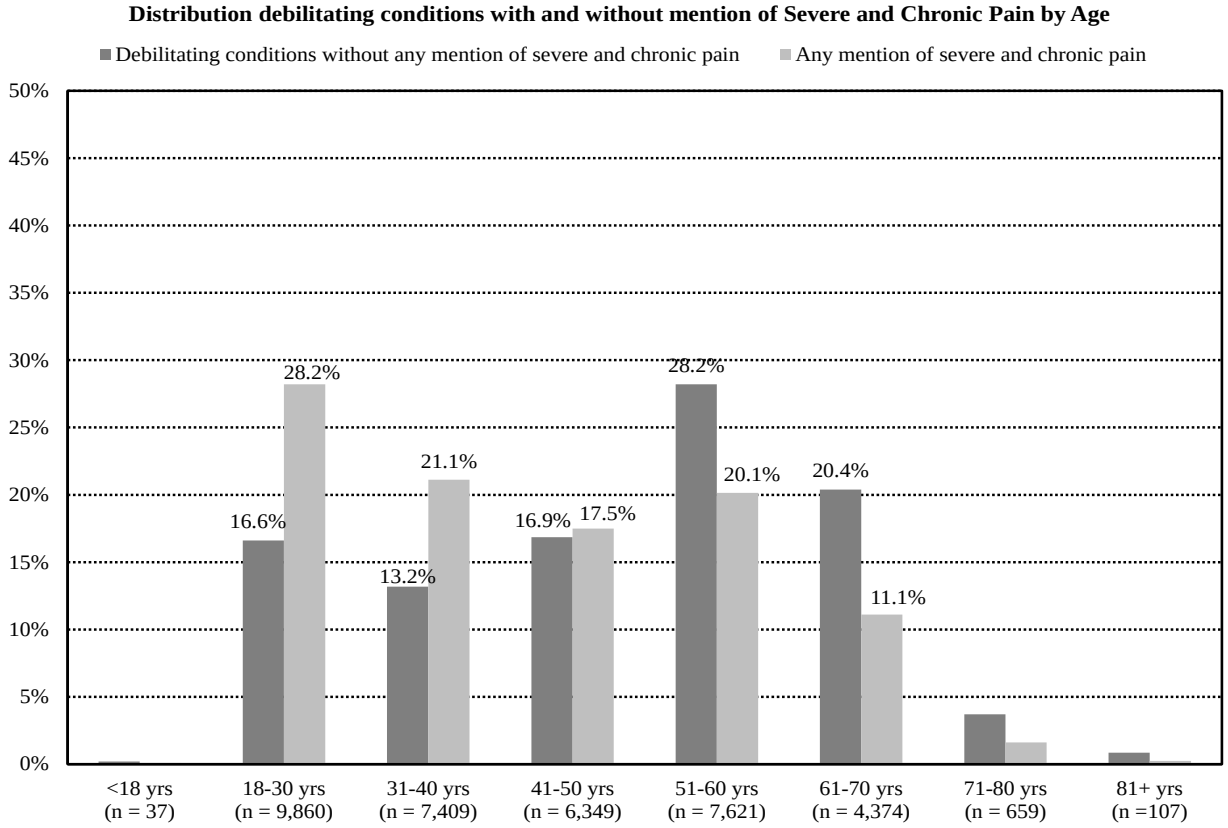


Table 7 gives an overview of debilitating medical conditions for QPs less than 18 years of age in order of frequency. In 59.5% of the cases (n = 22) “any debilitating medical condition that results in severe and chronic pain” was listed as a unique debilitating condition, followed by 27% (n = 10) of the cases with two or more debilitating conditions, followed by 10% (n = 4) indicating cancer. Among those reporting two or more qualifying conditions, 20% (n = 8) list nausea and chronic pain as the two qualifying conditions (n=4) or two of the three qualifying conditions (n = 4).

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

Nature of Debilitating Condition	Minor Qualifying Patients (<18 years)	
	Count	**Percent**
Unique conditions[†]	**27**	**73.0%**
Cancer	4	10.8%
Hepatitis C	0	0.0%
Cachexia	0	0.0%
Seizures	1	2.7%
Glaucoma	0	0.0%
Sclerosis	0	0.0%
Alzheimers	0	0.0%
Severe and chronic pain	22	59.5%
Muscle Spasms	0	0.0%
HIV/AIDS	0	0.0%
Crohn's Disease	0	0.0%
Nausea	0	0.0%
Multiple conditions[‡]	**10**	**27.0%**
Severe and chronic pain in combination with one other debilitating condition	5	13.5%
Severe and chronic pain in combination with two other debilitating condition	3	8.1%
Severe and chronic pain in combination with three other debilitating condition	0	0.0%
Severe and chronic pain in combination with four other debilitating condition	0	0.0%
Combinations without mention of severe and chronic pain	2	5.4%
State Totals	**37**	**100%**

[†]Conditions are unique as in, of the 37 minor qualifying patients, 4 indicated cancer as the only debilitating medical condition.
[‡]Multiple conditions are two or more conditions specified by a qualified patient as in, of the 37 minor qualifying patients, 10 indicated having at least two or more of the listed debilitating conditions.

The AMMA allows (see A.R.S. §36-2804.02(B)) individual QPs to be notified of any clinical studies on a voluntary basis. During July 2012 to June 2013, out of the 36,416 QPs, 6,388 (~18%) QPs requested to be notified of clinical studies. The number of QPs requesting to be notified of clinical studies during year two was significantly less than the 10,172 (approximately 35%) of the QPs requesting such notification during year one of AMMA. Table 8 provides an

overview of the notifications of clinical studies by QP's age, gender, and debilitating conditions. There was a significant difference by gender in requesting clinical trial notification $\chi^2 = 43.60$ (1) $p < 0.0001$. Although unexpected, males were more likely to request notifications for clinical trial notifications than females. In the first year of AMMA, females were more likely to request clinical trial notifications. Whether QPs had one debilitating medical condition or two or more conditions did not influence the request for clinical study notifications, $\chi^2 = 3.06$ (1) $p = 0.08$.

Table 8. *Notification of clinical studies by qualifying patient's age, gender, and debilitating medical conditions*

Qualifying patient characteristics	Clinical study notification			
	Yes (n = 6,388)		No (n = 30,028)	
	Count	Percent	Count	Percent
Age (in years)				
<18 yrs	2	0.0%	35	0.1%
18-30 yrs	1,629	25.5%	8,231	27.4%
31-40 yrs	1,291	20.2%	6,118	20.4%
41-50 yrs	1,161	18.2%	5,188	17.3%
51-60 yrs	1,399	21.9%	6,222	20.7%
61-70 yrs	782	12.2%	3,592	12.0%
71-80 yrs	110	1.7%	549	1.8%
81+ yrs	14	0.2%	93	0.3%
Gender †				
Females	2,033	31.8%	8,324	27.7%
Males	4,355	68.2%	21,704	72.3%
Debilitating conditions				
Unique condition	5,168	80.9%	24,573	81.8%
Two or more conditions	1,220	19.1%	5,455	18.2%

†Statistically significant difference between females and males. Males were more likely than females to elect for for clinical study notifications.

3.3 Registry Identification Card(s) Revoked

From July 1, 2012 through June 30, 2013, five Qualifying Patient cards, 20 separate Designated Caregiver cards, and zero Dispensary Agent cards were revoked.

There are two types of revocations for Registry Identification Cards.

- Designated Caregiver Revocations (Excluded Felony Offenses) – ADHS will seek a revocation when a CG or a DA has been found to have an excluded felony offense and is thus prohibited by statute to be a CG or DA under the AMMA.

- Law Enforcement Revocations – A revocation may be sought when ADHS receives information from a law enforcement entity that a cardholder has violated a provision(s) under the AMMA.

3.4 Characteristics of Physicians Providing Written Certifications

Table 9 on the following page provides an overview of the total number of medical marijuana certifications during July 2012 to June 2013. The total certifications in the table reflect the total number of patients certified by each physician type. Four hundred seventy-two (n = 472) physicians certified 36,346 patients during this time-period with an overall average of 77 patients per physician (± 273). A closer examination of Table 9 indicates that 99 Naturopathic Physicians (NMDs) certified 27,275 patients during this time period with an average certification of 275 patients per NMD, while 309 Medical Doctors (MDs) certified 6,434 patients with an average of 21 certifications per MD during the same time period. Similarly, 61 Osteopathic Physicians (DOs) certified 2,587 patients with an average certification of 42 patients per DO, and three Homeopathic Physicians (HMDs) certified 50 patients with an average of 17 patients per HMD.

It is evident from Table 9 that the distribution is heavily skewed towards a select few categories of physicians. Seventy-five percent of the patient certifications (27,275 / 36,346) were issued by NMDs, followed by approximately 17% (6,434 / 36,346) by MDs; although, MDs accounted for almost 65% (309 / 472) of the total physician certifiers.

Table 10 provides an overview of the 25 most frequent physician certifiers who accounted for 70% of the total certifications (25,401). For instance, 21 NMDs certified 19,499 patients accounting for approximately 72% of the total patient certifications in the NMD category, while three MDs accounted for 3,538 patient certifications accounting for 55% of the total patient certifications in the MD category. One DO accounted for 2,364 patient certifications accounting for slightly over 90% of the total patient certifications in the DO category.

Table 9. *Characteristics of physician certifications by type/specialization*

Type of Physician Certifier	Medical Marijuana certifications during July 2012 and June 2013					25 most frequent certifiers of Medical Marijuana		
	Counts of physician certifiers[†]	Total number of certifications by physician type[‡]	Average number of certifications[§]	Total number of eligible physician certifiers in the State[¶]	Rate* (Certifiers per 1000 physicians)	Counts of most frequent physician certifiers	Number of certifications by physician type	Percent of total certifications within specialization[℗]
Doctor of Medicine (MD)	309	6,434	20.82	22,669	13.63	3	3,538	55.0
Doctor of Naturopathic Medicine (NMD)	99	27,275	275.51	1,765	56.09	21	19,499	71.5
Doctor of Osteopathic Medicine (DO)	61	2,587	42.41	2,660	22.93	1	2,364	91.4
Doctor of Homeopathic Medicine (HMD)	3	50	16.67	84	35.71	0	0	0.0
Overall State Totals	**472**	**36,346**	**77.00**	**27,178**	**17.37**	**25**	**25,401**	**69.9**

[†]Counts are unique by type of physician certifiers and are identified using license number.

[‡]Total number of certifications during July 2012 to June 2013 for qualifying individual patients. The totals are slightly different from the total QPs (i.e. 34,416) due to missing data on 70 cases.

[§]Average number of certifications is total number of certifications in each category divided by the unique count of physicians in that category (i.e. 6,434/309 = 20.82). On average each MD certified by 21 patients.

[¶]Data for total number of physicians is periodically obtained from Arizona Medical Board, Arizona Board of Naturopathic Medicine, Arizona Board of Homeopathic Medicine. The total numbers reflect data available as of June 2013.

*Rates are calculated as the unique count of physician certification divided by total number of active physicians in that category (for example, 309/22,669 = 13.63) per 1000.

[℗]Percent of total certifications within specialization reflects the total number of certifications by most frequent physician certifiers divided by total number of physician certifications within the same specialization completed during the time-period. For example, three MDs accounted for 55% of the total certifications in the MD category (i.e. 3,538/6,434).

Figure 8 below displays the most frequent physician certifiers by type to further illustrate the point made in Table 9.

Figure 8. *Most frequent recommending physicians by licensing board*

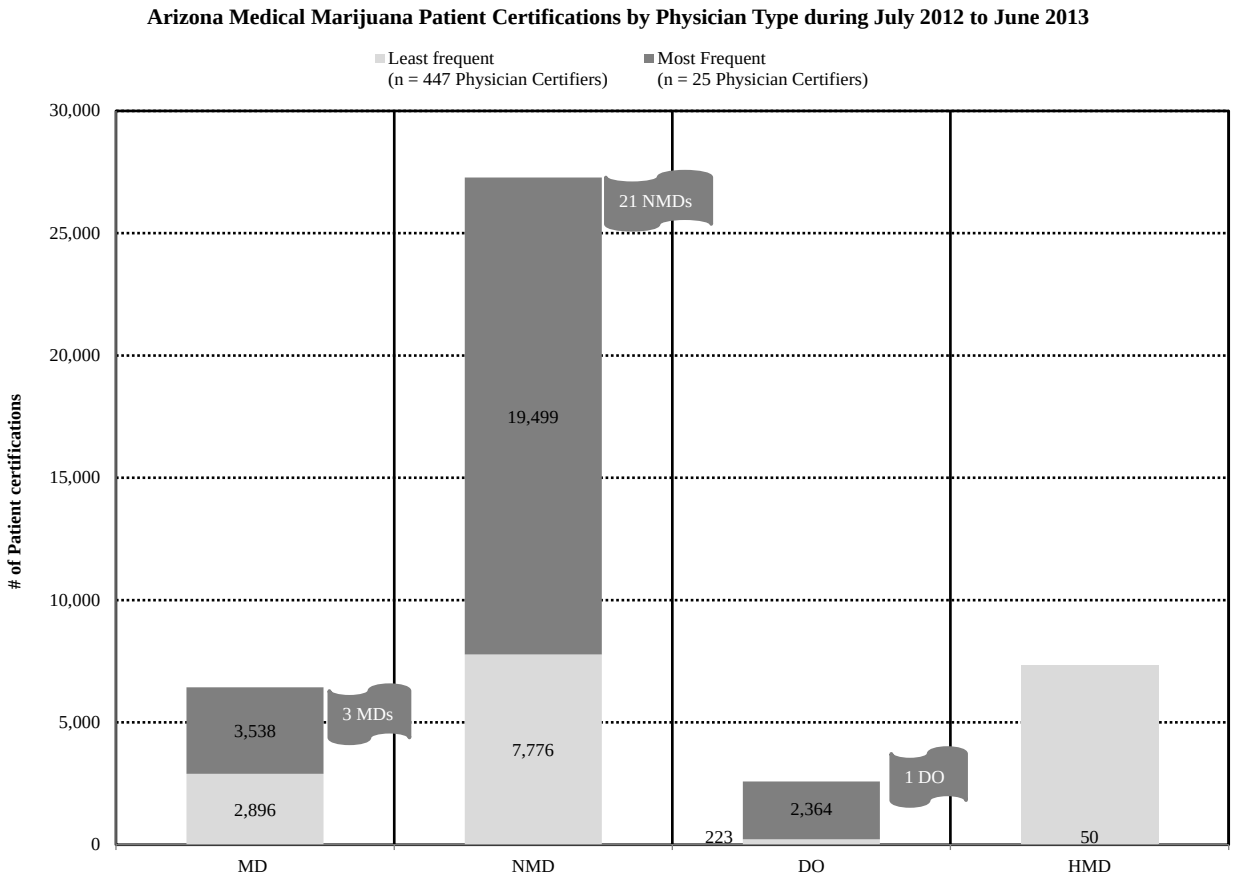


Table 10 on the following page lists the most frequent recommending physicians in order of number of certifications from July 2012 to June 2013. On a bi-annual basis, ADHS conducts an analysis of the most frequent physician certifiers and works with the Arizona Board of Pharmacy to assess whether these certifying physicians have been accessing the controlled substances database. Based on information received from the Arizona Board of Pharmacy, each Arizona physician licensing board is notified of any discrepancies and possible further action. Since the program's inception in April 2011, ADHS has referred 11 physicians to the respective physician licensing boards for this issue.

Table 10. *Twenty-five most frequent recommending physicians of medical marijuana*

25 Most Frequent Certifiers of Medical Marijuana			
#	**Physician type**	**Patients certified**	**Percent within most frequent**
1	NMD	2,833	11.2%
2	DO	2,364	9.3%
3	NMD	1,879	7.4%
4	NMD	1,866	7.3%
5	MD	1,632	6.4%
6	MD	1,429	5.6%
7	NMD	1,142	4.5%
8	NMD	1,104	4.3%
9	NMD	1,043	4.1%
10	NMD	1,004	4.0%
11	NMD	884	3.5%
12	NMD	740	2.9%
13	NMD	731	2.9%
14	NMD	701	2.8%
15	NMD	653	2.6%
16	NMD	647	2.5%
17	NMD	632	2.5%
18	NMD	630	2.5%
19	NMD	607	2.4%
20	NMD	559	2.2%
21	NMD	533	2.1%
22	NMD	490	1.9%
23	MD	477	1.9%
24	NMD	432	1.7%
25	NMD	389	1.5%
Total Certifications[§]		**25,401**	**100%**

[§]These certifications account to 70 percent of all the certifications during July 2012 and June 2013.

Table 11 on the following page provides an overview of the physician recommendations for different debilitating medical conditions. The counts exclude HMDs due to small sample size. As noted earlier, severe and chronic pain is consistently the highest reported debilitating medical condition irrespective of the physician type. However, approximately 80% of the DOs (n = 2,062) recommended severe and chronic pain as a unique debilitating medical condition compared to MDs (~71%) and NMDs (~73%). Both MDs (~17%) and NMDs (~19%) recommended two or more debilitating medical conditions more frequently than DOs (~10%).

Table 11. *Debilitating medical conditions by recommending physician type*

Nature of Debilitating Medical Conditions[§]	Physician Certifications for Debilitating Medical Conditions						Totals	Percent
	DO		MD		NMD			
	Count	Percent	Count	Percent	Count	Percent		
Cancer	66	2.6%	166	2.6%	511	1.9%	**744**	**2.0%**
Hepatitis C	39	1.5%	127	2.0%	413	1.5%	**579**	**1.6%**
Cachexia	6	0.2%	14	0.2%	20	0.1%	**40**	**0.1%**
Seizures	29	1.1%	43	0.7%	179	0.7%	**251**	**0.7%**
Glaucoma	22	0.9%	58	0.9%	245	0.9%	**325**	**0.9%**
Sclerosis	2	0.1%	1	0.0%	7	0.0%	**10**	**0.0%**
Alzheimers	0	0.0%	2	0.0%	5	0.0%	**7**	**0.0%**
Severe and chronic pain	2,062	79.7%	4,572	71.1%	19,851	72.8%	**26,527**	**73.0%**
Muscle spasms	41	1.6%	136	2.1%	288	1.1%	**465**	**1.3%**
HIV/AIDS	5	0.2%	56	0.9%	129	0.5%	**190**	**0.5%**
Crohn's disease	18	0.7%	48	0.7%	128	0.5%	**194**	**0.5%**
Nausea	27	1.0%	89	1.4%	224	0.8%	**340**	**0.9%**
Two or more debilitating conditions	270	10.4%	1,122	17.4%	5,275	19.3%	**6,674**	**18.4%**
Overall State Totals	**2,587**	**100.0%**	**6,434**	**100%**	**27,275**	**100%**	**36,346**	**100.0%**

[§]Conditions are unique debilitating medical conditions unless noted otherwise.

[¶]HMDs are not included in the totals due to small sample size.

3.5 Registered Non-Profit Medical Marijuana Dispensaries

From July 1, 2012 through June 30, 2013, ADHS issued 99 dispensary registration certificates (DRC).

3.6 Non-Profit Medical Marijuana Dispensary Agents

From July 1, 2012 through June 30, 2013, ADHS issued 492 Dispensary Agent Registry Identification Cards.

Discussion and Recommendations

Between July 1, 2012 until June 30, 2013, there were a total of 37,070 active cardholders, which included 36,416 qualifying patients and 654 caregivers. 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 = 29,741; ~82%) had one debilitating medical condition with the remaining 18% reporting two or more conditions. Approximately 73% of the qualifying patients (n = 26,592) indicated "severe and chronic pain" as the only debilitating medical condition. Cancer was the second largest unique debilitating condition (n = 744; 2.0%), followed by Hepatitis C (n = 580; 1.6%). Ninety percent of all debilitating medical conditions had severe and chronic pain as a unique and/or multiple condition.

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., in furtherance of the act). Public health impacts to examine are 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, recent evidence from Colorado suggests that the proportion of ingestion visits in patients younger than 12 years (age range, 8 months to 12 years) were related to marijuana exposure increased after decriminalization of medical marijuana in Colorado.[9]

Since the passage of the law, in two instances (Laws 2011, 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 modified the controlled substances database to include medical marijuana to allow physicians to make more informed decisions about patient care. Without these modifications, it would have been difficult to assess the high frequency physician certifications noted in this report and/or to report them to their respective medical boards.

Year One Recommendations and Updates

Recommendation 1: Develop intensive training for physicians who are high volume certifiers in conjunction with respective licensing medical boards for better patient provider coordination and adherence to AMMA statutory requirements. Leverage existing contracts with the Arizona Board of Pharmacy to more quickly identify physicians who may be making false attestations on physician certifications.

> *Update:* ADHS has contracted with the University of Arizona to develop and implement an online Continuing Medical Education (CME) Module regarding the physician's role and expectations under the Arizona Medical Marijuana Program. To date, over 20 physicians have completed the module. ADHS has also continued the contract with the Arizona Board of Pharmacy to employ one dedicated, full-time pharmacist to assist with audit requests from ADHS. The contract has also provided for technical improvements to the Arizona Board of Pharmacy's Controlled Substances Database.

Recommendation 2: Given the overwhelming recommendations for patients with "severe and chronic pain", explore the feasibility of further examining the nature of debilitating conditions. For instance, the current incident rate for cancer in Arizona (5-year average) was 390 per 100,000 (CI: 387.8-392.1) with an average annual count of 25,432 cases.[10] However, in the medical marijuana database, there were only 467 patients with Cancer as a unique debilitating condition.

> *Update:* Please see Year Two Recommendation One below for the extension of this Recommendation.

Recommendation 3: Explore the feasibility of temporary suspensions of cards. For revocations, the current AMMA statute provides only two possibilities with a cardholder status as either active and/or revoked. For instance, during the reporting period, there was one revocation for a QP and two revocations for designated CGs. In either case, there are a series of administrative actions that need to occur before a card is revoked, including the possibility of appeals through Administrative Hearing and Superior Court. During this time lag, a card remains in "active" status (i.e. the cardholders are protected by the AMMA) until a final decision is made; thus, providing immunity to potential misuse of AMMA provisions.

> *Update:* Currently, without a legislative change or amendment to the AMMA, a temporary suspension of cards is not feasible.

Recommendation 4: Amend AMMA provisions to explore the feasibility of conducting epidemiological analysis of medical marijuana users to understand public health and safety concerns. For instance, epidemiological analyses can shed light on: a) whether use of medical marijuana has an effect on opiate dependency; b) whether use of medical marijuana has an

impact on motor vehicle traffic injuries; and (c) whether use of medical marijuana has an impact on pregnancy outcomes or breastfeeding.

> *Update:* Currently, without a legislative change or amendment to the AMMA, conducting epidemiological analyses of medical marijuana users with other public health and safety data is not feasible.

Year Two Recommendations

Recommendation 1: Given the continued overwhelming recommendations for patients with "severe and chronic pain", explore the feasibility of collecting a more nuanced data through ICD10 codes.

Recommendation 2: Propose Arizona Administrative Code rule changes to include the ability to appeal for dispensary certificate holders, eliminating the former "Year 2" selection criteria for dispensaries by focusing on vacant CHAAs rather than patient density, removing the lifetime disqualification for those applicants that receive a dispensary registration certificate but do not execute, and modifications to the current 25-mile radius rule.

Appendix A
Arizona Medical Marijuana Program Governing Documents

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

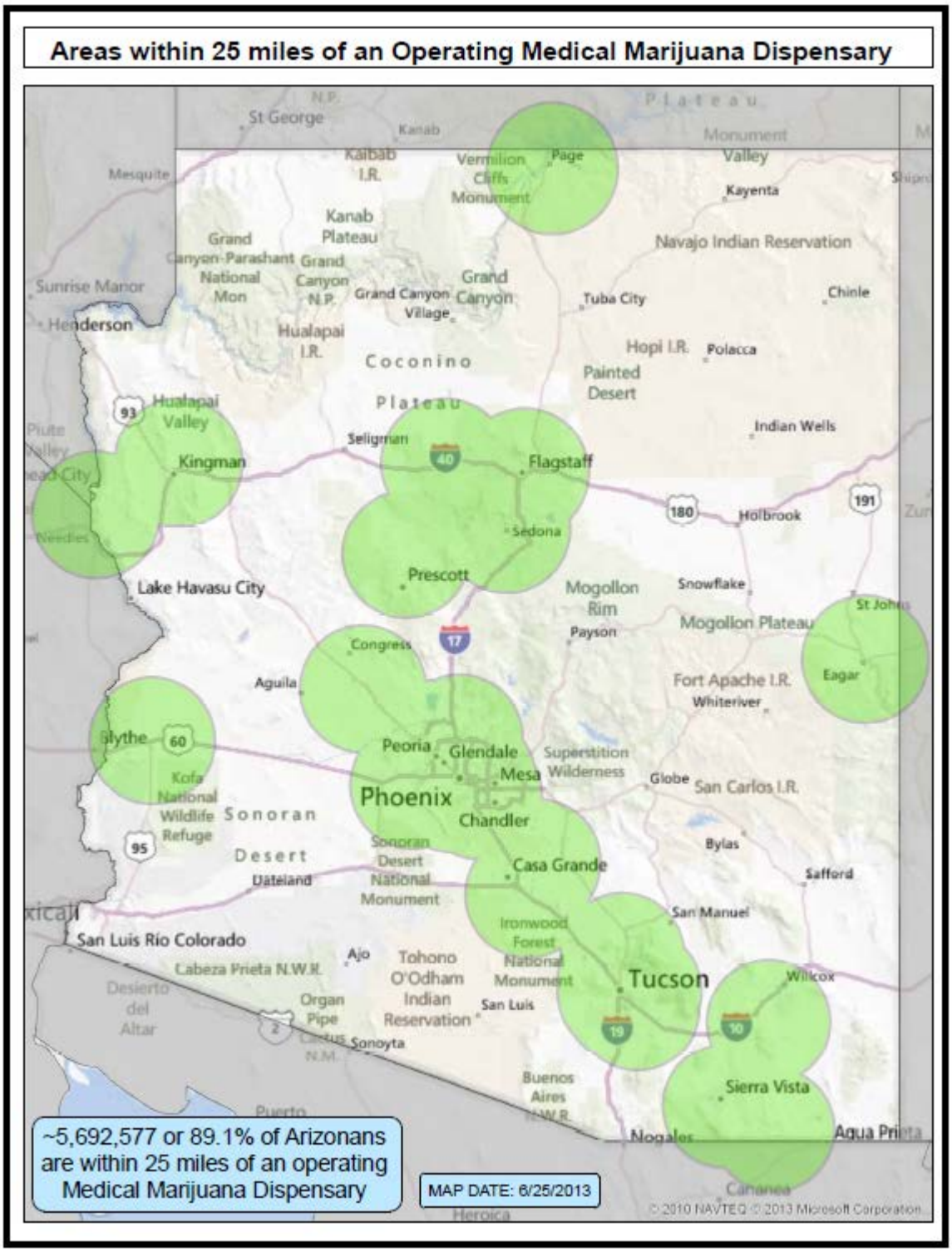
CHAPTER	ARIZONA MEDICAL MARIJUANA ACT
36-2801	Definitions
36-2801.01	Addition of debilitating medical conditions
36-2802	Arizona Medical Marijuana Act; limitations
36-2803	Rulemaking
36-2804	Registration and certification of nonprofit medical marijuana dispensaries
36-2804.01	Registration of nonprofit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

Arizona Medical Marijuana Administrative Code (Rules)

The rules in the Arizona Administrative Code (A.A.C.) that apply to the Medical Marijuana Dispensary portion of the Arizona Medical Marijuana Act were filed on April 11, 2012. ADHS accepted applications for Medical Marijuana Dispensary Registration Certificates from May 14 through May 25, 2012.

ADHS used an emergency rulemaking process to incorporate the changes required by a recent Superior Court Ruling. This process requires subsequent rulemaking using the regular rulemaking process. An unofficial draft of the rules being made through regular rulemaking combines the amendments contained in the Express Rulemaking with the Medical Marijuana Program Rules.

Appendix B
Areas within 25 Miles of an Operating Medical Marijuana Dispensary



Appendix C
Marijuana v. Cannabis Blog Post

Are Marijuana and Cannabis the same thing when it comes to Arizona Law? The short answer is no- and the distinction may be an important one for Qualified Patients.

The Arizona Medical Marijuana Act provides registry identification card holders and dispensaries a number of legal protections for their medical use of Marijuana pursuant to the Act. Interestingly, the Arizona Medical Marijuana Act definition of "Marijuana" in A.R.S. § 36-2801(8) differs from the Arizona Criminal Code's ("Criminal Code") definition of "Marijuana" in A.R.S. § 13-3401(19). In addition, the Arizona Medical Marijuana Act makes a distinction between "Marijuana" and "Usable Marijuana." A.R.S. § 36-2801(8) and (15).

The definition of "Marijuana" in the Arizona Medical Marijuana Act is *"… all parts of any plant of the genus cannabis whether growing or not, and the seeds of such plant."* The definition of "Usable Marijuana" is *"… the dried flowers of the marijuana plant, and any mixture or preparation thereof, but does not include the seeds, stalks and roots of the plant and does not include the weight of any non-marijuana ingredients combined with marijuana and prepared for consumption as food or drink."* The "allowable amount of marijuana" for a qualifying patient and a designated caregiver includes "two-and-one half ounces of *usable marijuana*." A.R.S. § 36-2801(1).

The definition of "Marijuana" in the Criminal Code is "… all parts of any plant of the genus cannabis, *from which the resin has not been extracted*, whether growing or not, and the seeds of such plant." "Cannabis" (a narcotic drug under the Criminal Code) is defined as: *"… the following substances under whatever names they may be designated: (a) The resin extracted from any part of a plant of the genus cannabis, and every compound, manufacture, salt, derivative, mixture or preparation of such plant, its seeds or its resin. Cannabis does not include oil or cake made from the seeds of such plant, any fiber, compound, manufacture, salt, derivative, mixture or preparation of the mature stalks of such plant except the resin extracted from the stalks or any fiber, oil or cake or the sterilized seed of such plant which is incapable of germination;* and *(b) Every compound, manufacture, salt, derivative, mixture or preparation of such resin or tetrahydrocannabinol."* A.R.S. § 13-3401(4) and (20)(w).

An issue the Department has been wrestling with for some time is how the definition of "Marijuana" and "Usable Marijuana" in the Arizona Medical Marijuana Act and the definition of "Cannabis" and "Marijuana" in the Criminal Code fit together. This confusion, which appears to be shared by dispensaries and registered identification card holders alike, is not easy to clear up and has resulted in the Department receiving numerous questions regarding the interplay between the protections in A.R.S. § 36-2811 and the Criminal Code. While we can't provide legal advice as to whether a certain conduct is punishable under the Criminal Code (only an individual's or entity's legal counsel can do this), "Cannabis" is defined as the "resin extracted

from any part of a plant of the genus cannabis" and "Cannabis" is listed as a narcotic drug according to the Criminal Code in A.R.S. § 13-3401(4) and (20)(w).

In other words, registered identification card holders and dispensaries may be exposed to criminal prosecution under the Criminal Code for possessing a narcotic drug if the card holder or dispensary possesses resin extracted from any part of a plant of the genus *Cannabis* or an edible containing resin extracted from any part of a plant of the genus *Cannabis.* If you're concerned that your conduct may expose you to criminal prosecution, you may wish to consult an attorney. We'll be providing some specific guidance for dispensaries licensed by the ADHS next week.

Appendix D
Arizona Medical Marijuana Program Revenue and Expenditures

Medical Marijuana Fund
Revenues, Expenditures, & Fund Balance from FY 2012 and FY 2013

	FY 2012	FY 2013
Revenues		
Application fee for a Registry Card	5,566,707	5,647,895
Application fee for a Dispensary	2,420,000	134,125
Total Revenue	**7,986,707**	**5,782,020**
Expenditures		
Salaries, Wages & Benefits	570,972	735,697
Operating Expenditures	1,555,856	2,480,273
Aids to Organizations	-	491,524
Capital Equipment Expenditures	346,828	90,560
Total Expenditures	**2,473,656**	**3,798,054**
Fund Balance*	**5,513,051**	**7,497,017**

*Last year's annual report included revenues and expenditures from 4/14/11 (program inception) to 6/30/12. In addition to these amounts, during the closing period for FY 2012 the program accrued revenues of $41,430 and expenditures of $93,197. This included $41,430 for Registry Card Revenue, $50,833 for Operating Expenditures and $42,364 for Capital Equipment Expenditures.

End Notes:

1. Arizona Department of Health Services website.

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3. Marijuana Policy Project (2013, August 26 last update) The Twenty States and One Federal District with Effective Medical Marijuana Laws. And a 21st state with a research-oriented program and a limited defense. Retrieved from http://www.mpp.org/assets/pdfs/library/MMJLawsSummary.pdf .

4. Commissioner's Office Maine Department of Health and Human Services (2011, March) Maine Medical Use of Marijuana Program Annual Report.

5. Medical Cannabis Program Update for the Medical Advisory Board Meeting (2011, November 19) Office of the Secretary, Santa Fe, NM, http://www.nmhealth.org.

6. Nevada Health Division Medical Marijuana Program (2012, September 10) Nevada Medical Marijuana Report.

7. Charles Alexandre, PhD, RN Chief, Health Professions Regulation (2011, February 1) Rhode Island Medical Marijuana Report.

8. ADHS population estimates, by county for year 2012, ADHS Bureau of Vital Statistics (2013, 30 April), http://www.azdhs.gov/plan//menu/info/pop/pop12/pd12.htm.

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