

# OARRS

OHIO AUTOMATED RX REPORTING SYSTEM

## 2021 ANNUAL REPORT

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**STATE OF  
OHIO**  
BOARD OF PHARMACY

**Mike DeWine**  
Governor

**Steven W. Schierholt, Esq.**  
Executive Director

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[www.pharmacy.ohio.gov](http://www.pharmacy.ohio.gov)



## OHIO AUTOMATED RX REPORTING SYSTEM

### **What is OARRS?**

To address the growing misuse and diversion of prescription drugs, the Ohio General Assembly adopted legislation in 2004 authorizing the State of Ohio Board of Pharmacy to create a Prescription Drug Monitoring Program (PDMP), known as the Ohio Automated Rx Reporting System (OARRS). Established in 2006, OARRS collects information on all outpatient prescriptions for controlled substances and two non-controlled substances (gabapentin and naltrexone) dispensed by Ohio-licensed pharmacies and personally furnished by Ohio prescribers. This data is reported every 24 hours and is maintained in a secure database. Drug wholesalers and manufacturers are also required to submit information monthly on all controlled substances and gabapentin sold to an Ohio licensed pharmacy or prescriber.

OARRS serves multiple functions, including: patient care tool; drug epidemic early warning system; and drug diversion and insurance fraud investigative tool. As the only statewide electronic database that stores all controlled substance dispensing and personal furnishing information, OARRS helps prescribers and pharmacists avoid potentially life-threatening drug interactions as well as identify individuals fraudulently obtaining controlled substances from multiple healthcare providers, a practice commonly referred to as "doctor shopping."

It can also be used by professional licensing boards to identify or investigate clinicians with patterns of inappropriate prescribing and dispensing, assist law enforcement in cases of controlled substance diversion, provide drug court judges and court personnel with critical information regarding a participant's use of controlled substance medications, and provide hospital peer review committees information on a prescriber who is subject to the committee's evaluation, supervision, or discipline.

To learn more about OARRS, please visit: [www.pharmacy.ohio.gov/oarrs](http://www.pharmacy.ohio.gov/oarrs).

### **Submission of this Report**

Pursuant to section 4729.85 of the Revised Code, the State of Ohio Board of Pharmacy respectfully submits the following report on opioid pain relievers and other controlled substances dispensed by Ohio pharmacies or personally furnished by prescribers. This report will be disseminated to the Governor, the President of the Senate, the Speaker of the House of Representatives, the Attorney General, the chairpersons of the standing committees of the House of Representatives and the Senate that are primarily responsible for considering health and human services issues, the Department of Public Safety, the State Dental Board, the Board of Nursing, the State Vision Professionals Board, the State Medical Board, and the State Veterinary Medical Licensing Board.



# STATE OF OHIO

BOARD OF PHARMACY

Dear Governor DeWine and Members of the Ohio General Assembly,

On behalf of the members of the State of Ohio Board of Pharmacy, I am pleased to provide the 2021 Ohio Automated Rx Reporting System (OARRS) Annual Report. This report demonstrates the effectiveness of Ohio's comprehensive efforts to promote the safe and responsible prescribing of opioids and benzodiazepines.

OARRS serves as an indispensable tool in the state's efforts to address prescription drug abuse. Use of the system continues to increase at record rates thanks to the Board's efforts to promote the integration of OARRS into electronic health records and pharmacy dispensing systems. Since implementing the first statewide integration program in the nation, we have onboarded a significant number of health systems, clinics, and pharmacies throughout the state. Because of these efforts, more than 63,000 pharmacists and prescribers have instant access to OARRS as part of their workflow.

In addition to the record use of OARRS, highlights from the 2021 Annual Report include:

- The number of opioid doses and prescriptions dispensed to Ohio patients continued to decrease. Total doses of opioids decreased from a high of 793 million in 2012 to 319 million in 2021, a 60 percent decrease. The total number of opioid prescriptions decreased by 7.1 million between 2012 and 2021, a 56 percent decrease.
- The number of benzodiazepine doses and prescriptions dispensed to Ohio patients continued to decrease. Total doses of benzodiazepines decreased from a high of 297 million in 2012 to 159 million in 2021, a 46 percent decrease. The total number of benzodiazepine prescriptions decreased by 1.93 million between 2012 and 2021, a 39 percent decrease.

This past year saw recognition of Ohio's leadership in expanding PDMP use from the U.S. Centers for Medicare and Medicaid Services (CMS). In collaboration with the Ohio Department of Medicaid, OARRS became the first PDMP in the country to receive CMS certification. This certification provides much needed resources to support OARRS integration efforts and promote data-sharing between the Board and the Ohio Department of Medicaid.

2021 was also the year that OARRS began collecting data on individuals receiving treatment from state-licensed opioid treatment programs (OTP). Through a collaboration with the Ohio Department of Mental Health and Addiction Services, patients who are actively treated as part of an OTP are now flagged for healthcare providers in OARRS. This information is intended to support clinical decision-making prior to prescribing controlled substance medications.

On behalf of the members of the State of Ohio Board of Pharmacy, I thank you for your leadership and ongoing support of OARRS. If you have any questions regarding the work of the Board, please do not hesitate to contact my office by phone (614-466-4143) or by e-mail: [contact@pharmacy.ohio.gov](mailto:contact@pharmacy.ohio.gov).

Sincerely,

A handwritten signature in black ink that reads "Steven W. Schierholt".

Steven W. Schierholt, Esq.

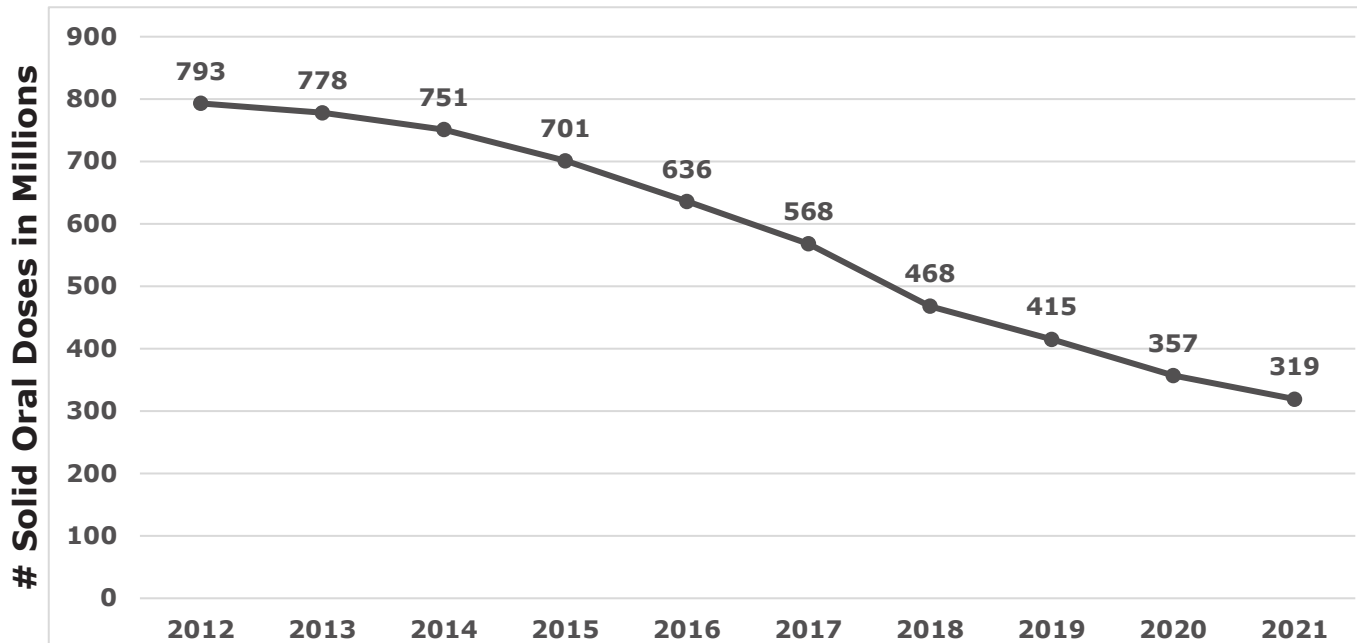
Executive Director

State of Ohio Board of Pharmacy

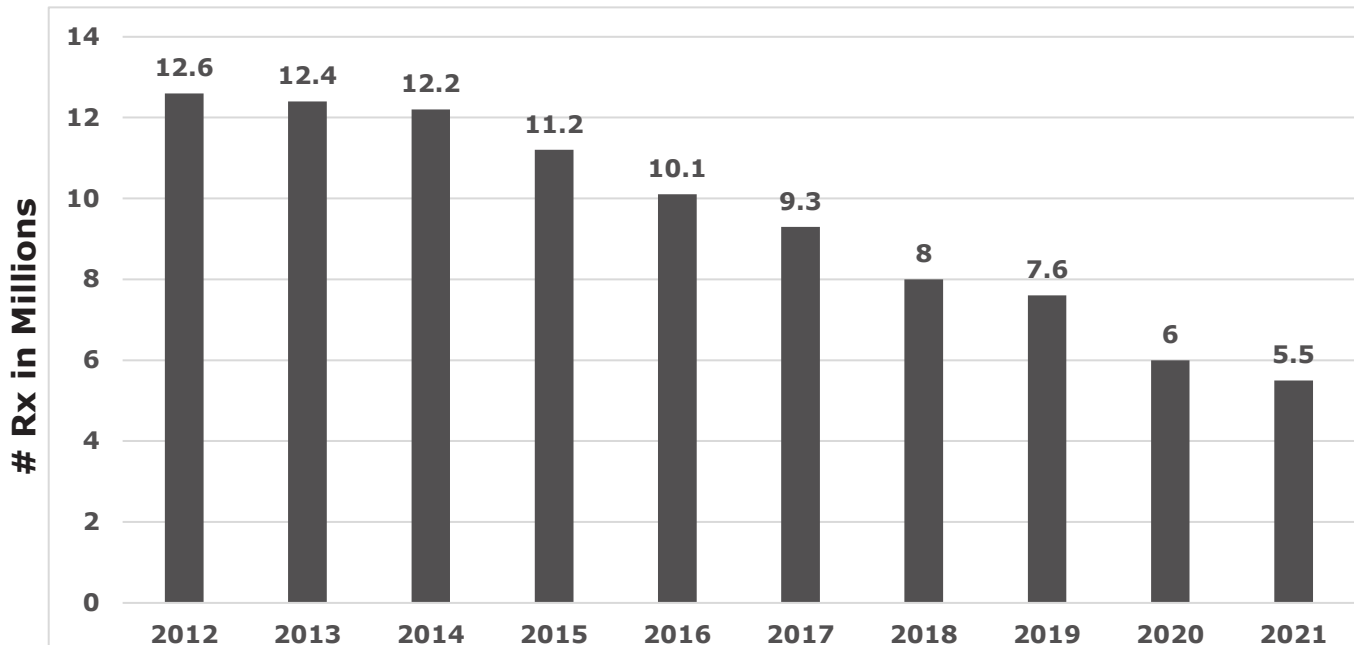
# Section 1: Opioids Dispensed to Ohio Patients

In 2021, the number of opioid doses\* and prescriptions dispensed to Ohio patients continued to decrease. Total doses of opioids decreased from a high of 793 million in 2012 to 319 million in 2021, a 60 percent decrease (Chart #1). The total number of opioid prescriptions decreased by 7.1 million between 2012 and 2021, a 56 percent decrease (Chart #2).

**Chart #1 - Opioid Solid Doses\* Dispensed to Ohio Patients, by Year**



**Chart #2 - Opioid Prescriptions Dispensed to Ohio Patients, by Year**



\*Solid dosage units only (eg. tablets, capsules and patches). Liquids and powders are not included.

Pursuant to section 4729.85 of the Revised Code, the Board is required to report opioid prescriptions dispensed by pharmacies to Ohio patients (see Table #1), including all of the following information:

- The number of prescribers who issued prescriptions for opioid pain relievers;
- The number of patients to whom opioid pain relievers were dispensed;
- The average quantity of opioid pain relievers dispensed per prescription;
- The average daily morphine equivalent dose (MED) of the opioid pain relievers dispensed per prescription.

**Table #1 - Opioids\* Dispensed to Ohio Patients, by Year**

Year	No. of Prescribers	No. of Patients	Average Quantity per Prescription	Average Daily MED per Prescription
<b>2010</b>	55,895	2,733,066	64.37	53.35
<b>2011</b>	66,554	2,761,707	64.55	48.58
<b>2012</b>	66,649	3,053,090	65.38	47.89
<b>2013</b>	65,452	2,686,169	65.20	46.66
<b>2014</b>	63,178	2,650,078	64.15	45.34
<b>2015</b>	57,673	2,615,768	64.59	44.92
<b>2016</b>	56,287	2,359,175	65.48	44.43
<b>2017</b>	55,107	1,998,846	66.48	43.23
<b>2018</b>	56,221	1,850,561	63.43	39.23
<b>2019</b>	53,622	1,706,059	61.19	42.37
<b>2020</b>	41,360	1,687,921	60.62	40.76
<b>2021</b>	39,886	1,501,544	58.97	40.70

\*Buprenorphine used to treat opioid dependence or addiction is excluded.

## WHAT IS A MORPHINE EQUIVALENT DOSE?

A morphine equivalent dose (MED) is the total amount of opioid medications, converted to a common unit (milligrams of morphine), that a patient currently has access to based on the information reported by prescribers and pharmacies to OARRS. Morphine is widely regarded as the “standard” for the treatment of moderate to severe pain and is commonly used as a reference point. As MED increases, the likelihood of an adverse event increases, therefore identifying at-risk patients is a crucial first step towards improving patient safety. OARRS utilizes opioid conversions created by the US Centers for Disease Control and Prevention (CDC).

Ohio’s rules on the prescribing of opioids for acute pain generally limits an opioid prescription for acute pain to an average of 30 mg MED per day. For more information on the rules, visit: [www.pharmacy.ohio.gov/acutelimits](http://www.pharmacy.ohio.gov/acutelimits).

Ohio prescribers also need to comply with regulations when prescribing opioids for the treatment of long-term pain (lasting 12 weeks or more) and subacute pain (lasting between six and 12 weeks). The rules establish MED check points to ensure appropriate prescribing. For more information on the rules, visit: [www.pharmacy.ohio.gov/chronicpain](http://www.pharmacy.ohio.gov/chronicpain).

# Section 2: Opioids Personally Furnished by Ohio Prescribers

Pursuant to section 4729.85 of the Revised Code, the Board is required to report on the number of opioid pain relievers that have been personally furnished to a patient by an Ohio prescriber (see Table #2), including all of the following information:

- The number of prescribers who personally furnished opioid pain relievers;
- The number of patients to whom opioid pain relievers were personally furnished;
- The average quantity of the opioid pain relievers that were furnished at one time;
- The average daily morphine equivalent dose (MED) of the opioid pain relievers that were furnished at one time.

**Table #2 - Opioids\* Personally Furnished by Ohio Prescribers, by Year**

Year	No. of Prescribers	No. of Patients	Average Quantity Per Instance	Average Daily MED per Instance
<b>2010**</b>	13	1,394	306.46	114.04
<b>2011**</b>	93	735	69.70	35.32
<b>2012</b>	198	2,215	15.02	19.92
<b>2013</b>	180	2,761	9.15	17.95
<b>2014</b>	192	2,085	10.11	19.64
<b>2015</b>	235	1,877	17.41	31.20
<b>2016</b>	113	1,465	28.26	29.29
<b>2017</b>	34	888	24.67	25.29
<b>2018</b>	31	970	15.71	19.49
<b>2019</b>	18	547	13.39	17.44
<b>2020</b>	29	1,581	4.12	24.06
<b>2021</b>	27	1,017	5	15

\*Buprenorphine used to treat opioid dependence or addiction is excluded.

\*\*Mandatory reporting to OARRS by prescribers who personally furnish controlled substances went into effect on May 20, 2011.

## WHAT IS THE DIFFERENCE BETWEEN DISPENSING AND PERSONALLY FURNISHING?

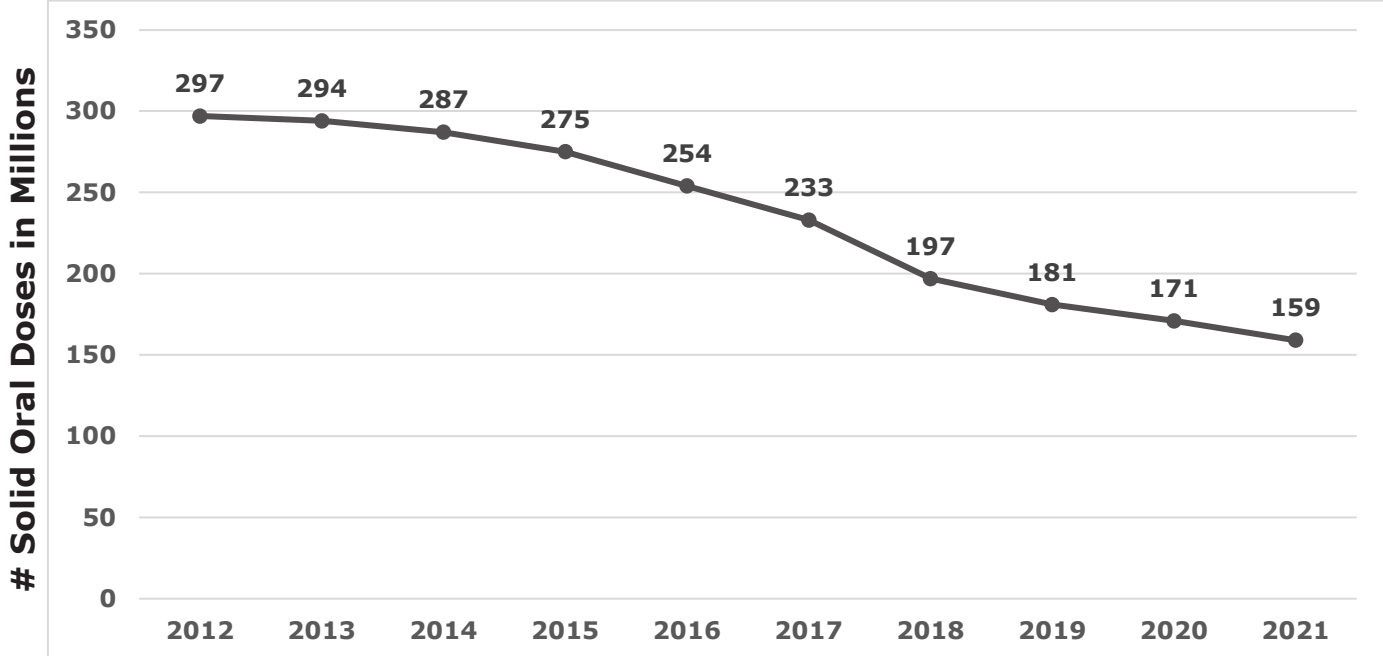
Dispensing is defined by law as the distribution of drugs by a pharmacist pursuant to a valid prescription from a prescriber. Personally furnishing is defined as the distribution of drugs by a prescriber to the prescriber's patients for use outside the prescriber's practice setting. Except in a limited number of circumstances, prescribers are not permitted to personally furnish a controlled substance in excess of a seventy-two-hour supply (ORC 4729.291 - Effective May 20, 2011).

Ohio prescribers who personally furnish controlled substances or gabapentin from their offices are required to report those medications to OARRS within 24 hours (ORC 4729.79).

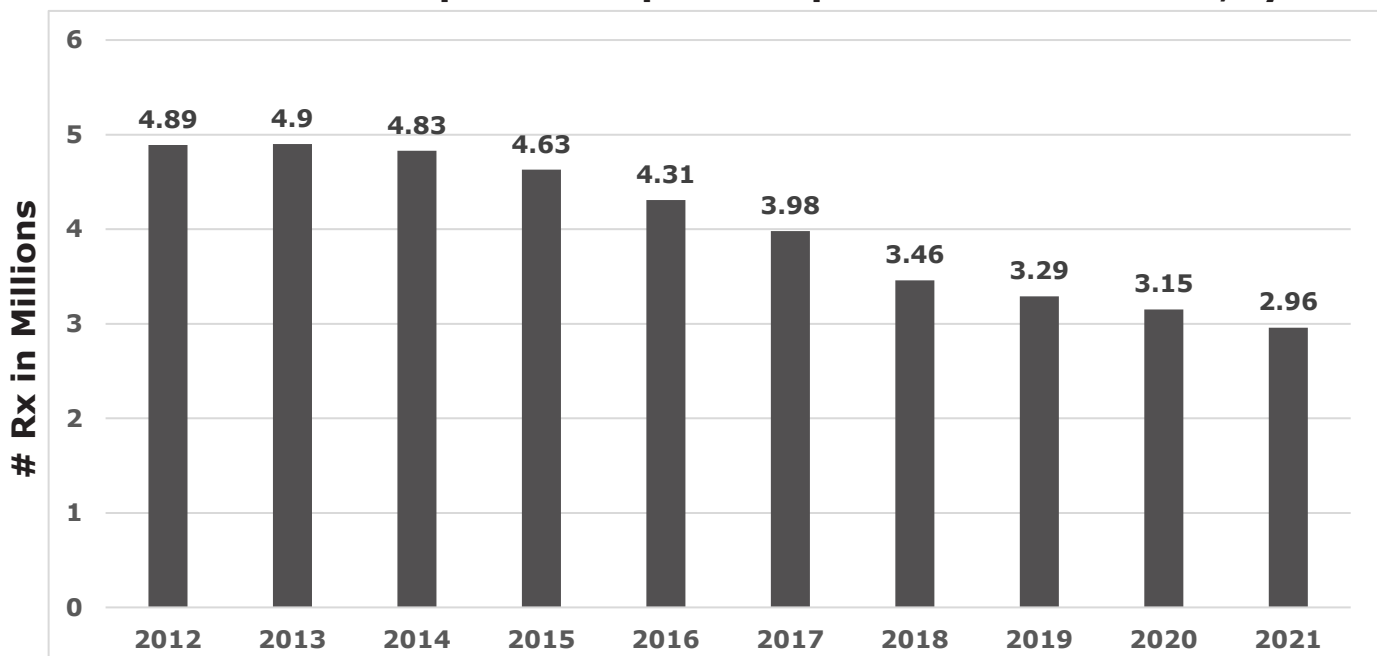
# Section 3: Benzodiazepines Dispensed to Ohio Patients

In 2021, the number of benzodiazepine doses\* and prescriptions dispensed to Ohio patients continued to decrease. Total doses of benzodiazepines decreased from a high of 297 million in 2012 to 159 million in 2021, a 46 percent decrease (Chart #3). The total number of benzodiazepine prescriptions decreased by 1.93 million between 2012 and 2021, a 39 percent decrease (Chart #4).

**Chart #3 - Benzodiazepine Solid Doses\* Dispensed to Ohio Patients, by Year**



**Chart #4 - Benzodiazepine Prescriptions Dispensed to Ohio Patients, by Year**

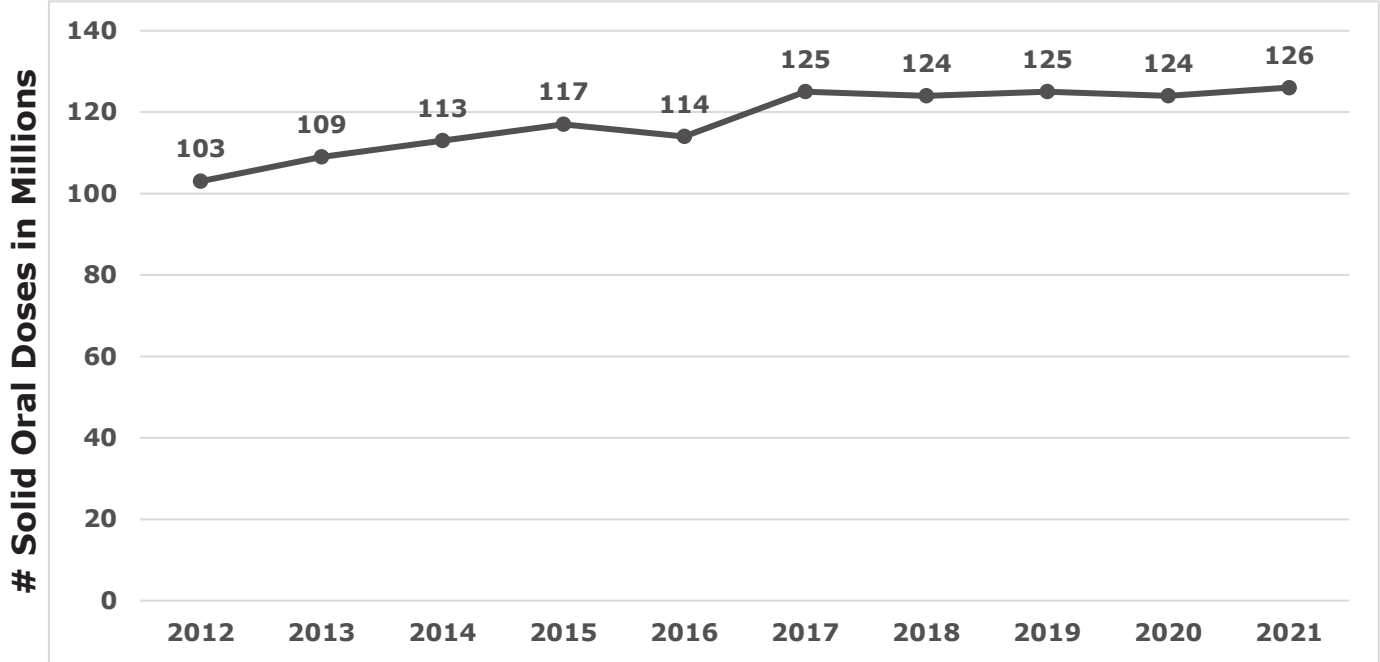


\*Solid dosage units only (eg. tablets, capsules and patches). Liquids and powders are not included.

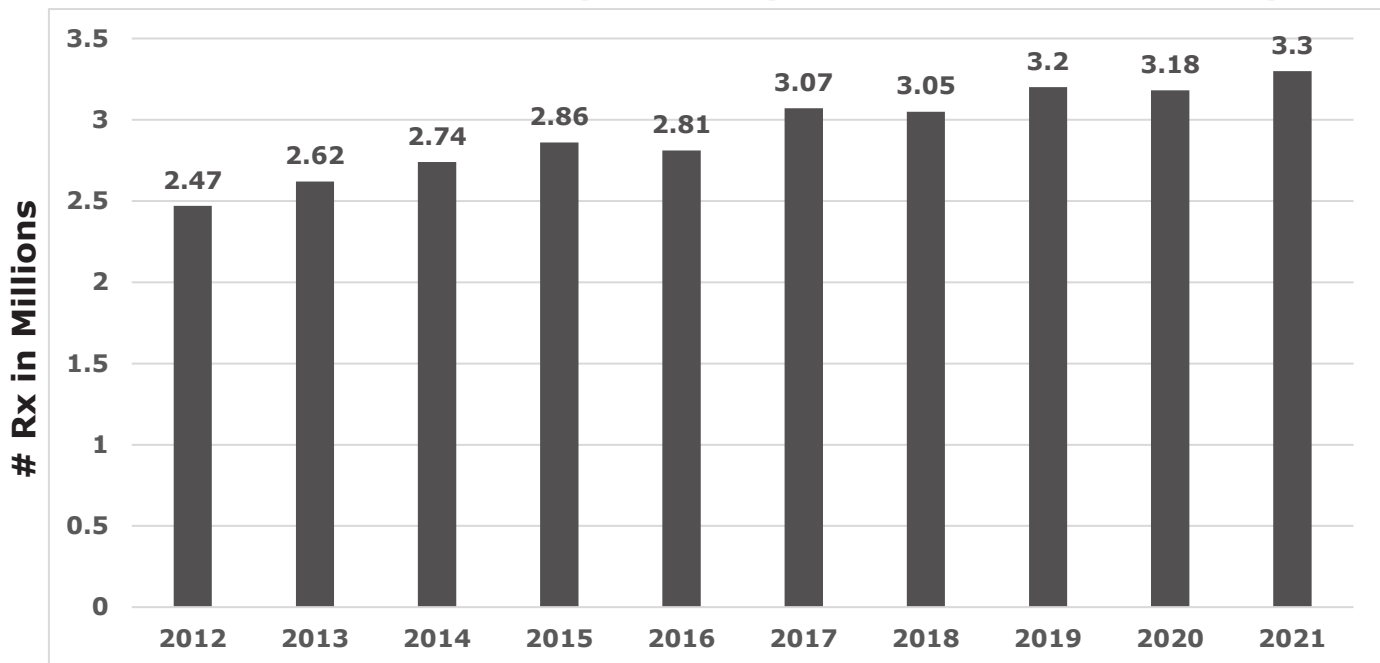
# Section 4: Controlled Substance Stimulants Dispensed to Ohio Patients

In 2021, the number of stimulant doses\* and prescriptions dispensed to Ohio patients remained relatively stable (Chart #5). Total doses of stimulant prescriptions have continued to increase since 2012 but have generally remained at similar levels since 2017. The total number of stimulant prescriptions increased by 34 percent between 2012 and 2021 (Chart #6).

**Chart #5 - Stimulant Solid Doses\* Dispensed to Ohio Patients, by Year**



**Chart #6 - Stimulant Prescriptions Dispensed to Ohio Patients, by Year**



\*Solid dosage units only (eg. tablets, capsules and patches). Liquids and powders are not included.



# Section 5: Naltrexone Products Dispensed to Ohio Patients

Effective March 19, 2019, naltrexone products, that are indicated for the treatment of alcohol dependence or the prevention of relapse to opioid dependence, are required to be reported to OARRS. Pursuant to section 4729.85 of the Revised Code, the Board is required to report the following aggregate information on naltrexone:

- The number of prescribers who issued a prescription for or personally furnished\* the drug (see Table #3);
- The number of patients to whom the drug was dispensed or personally furnished\* (see Table #3);
- The average quantity of the drug dispensed per prescription or furnished\* at one time (see Table #4).

**Table #3 - Naltrexone Dispensing or Personally Furnishing\*, 2021**

Number of prescribers who issued a prescription or personally furnished the drug	5,625
Number of patients to whom the drug was dispensed or personally furnished	26,684

**Table #4 - Average Quantity of Naltrexone Dispensed or Personally Furnished\*, 2021**

Average quantity of the drug dispensed per prescription or furnished at one time (50mg tablets)	30.06
Average quantity of the drug dispensed per prescription or furnished at one time (mg extended-release powder)	1.53

*\*Federal patient privacy rules prohibit the reporting of drugs used to treat substance use disorder that are personally furnished by prescribers to OARRS. The figures listed represent naltrexone dispensed by pharmacies to Ohio patients.*

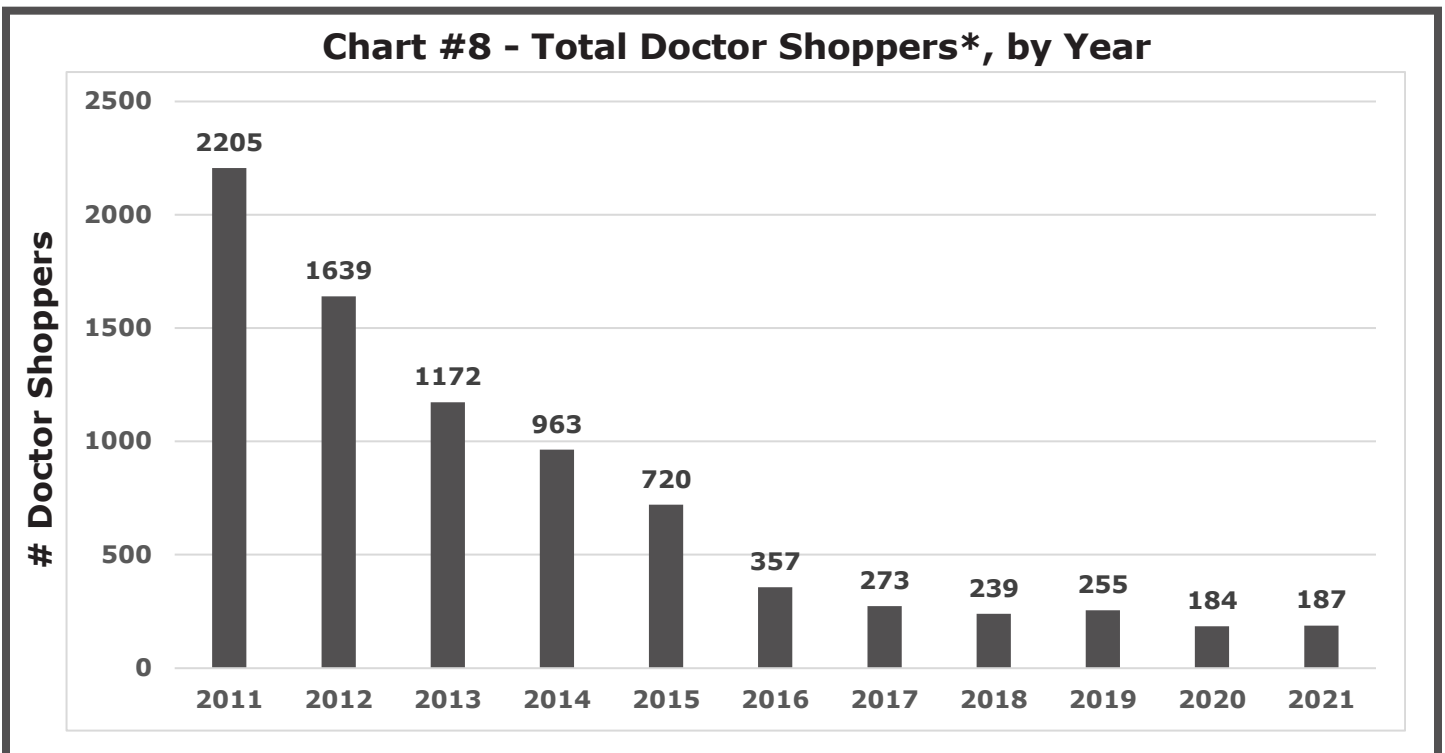
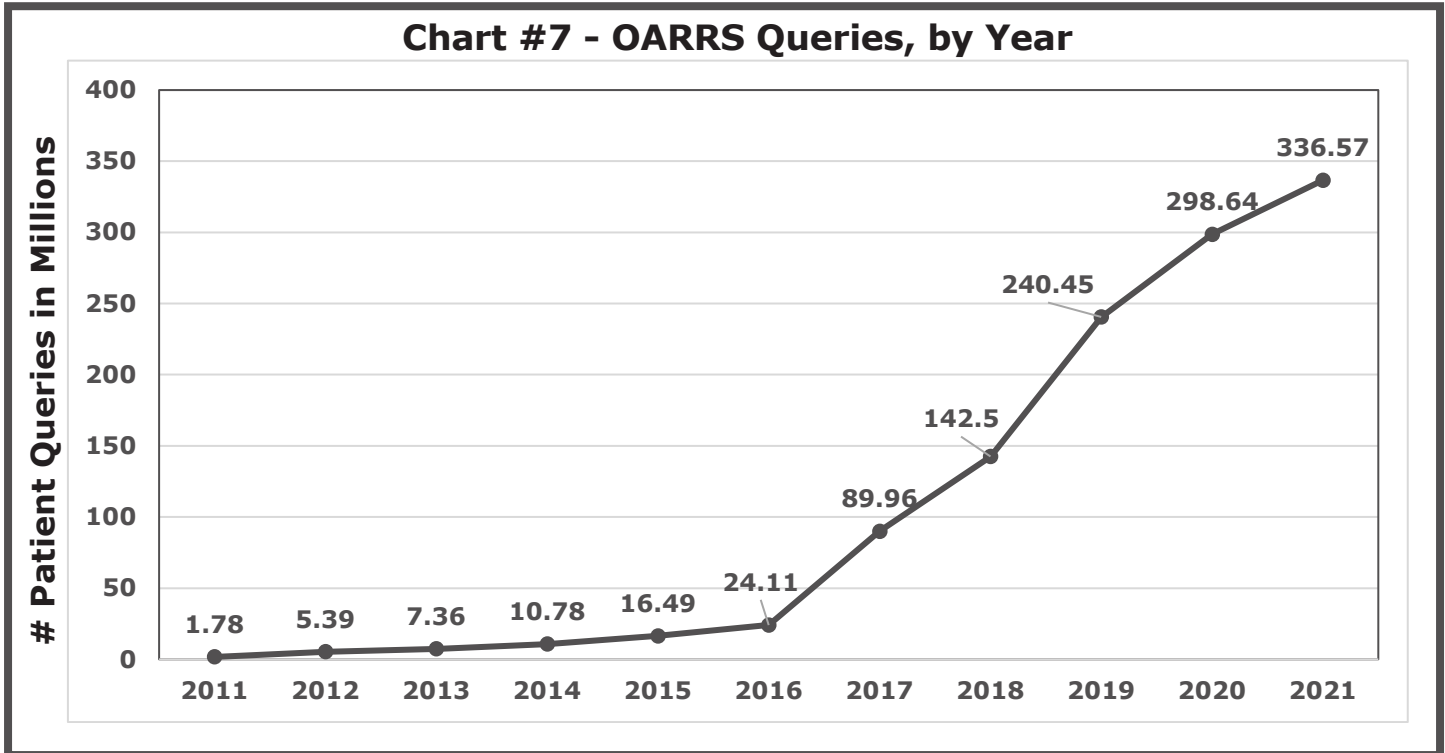
## WHAT IS NALTREXONE AND WHY IS THIS INFORMATION COLLECTED?

According to the Substance Abuse and Mental Health Services Administration, naltrexone is a medication approved by the Food and Drug Administration to treat opioid use disorders and alcohol use disorders. It comes in a pill form or as an injectable. The pill form of naltrexone (ReVia, Depade) can be taken at 50 mg once per day. The injectable extended-release form of the drug (Vivitrol) is administered at 380 mg once a month.

The collection of naltrexone information is intended to assist prescribers and pharmacists in identifying individuals who may be receiving treatment for substance use disorder. This information can be useful for healthcare providers who are considering the use of controlled substances to treat patients.

# Section 6: OARRS Usage and Doctor Shoppers

The number of patient queries in OARRS increased from 1.78 million in 2011 to 336.57 million in 2021, an increase of more than 18,000 percent (see Chart #7). Conversely, the number of individuals who see multiple prescribers in order to obtain controlled substances illicitly (commonly referred to as “doctor shopping”) decreased from 2,205 in 2011 to 187 in 2021, a decrease of 92 percent (see Chart #8).



\*In this chart, a doctor shopper is defined as an individual receiving a prescription for a controlled substance from five or more prescribers in one calendar month.

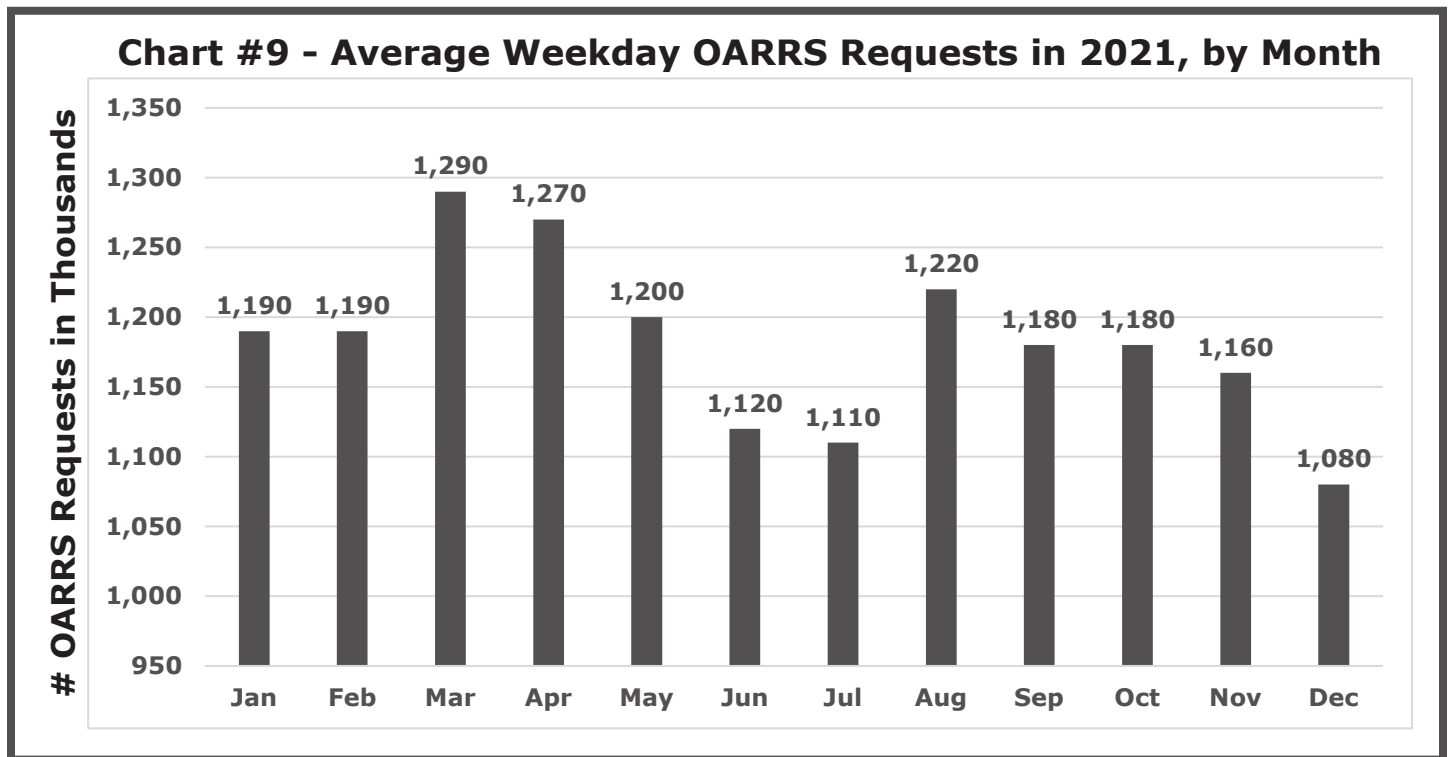
# Section 7: OARRS Integration

In October 2015, Ohio became the first state in the country to offer statewide PDMP integration directly into electronic medical records and pharmacy dispensing systems. As a result of this initiative, more than 63,000 Ohio prescribers and pharmacists were able to immediately access OARRS within their clinical workflow in 2021 (see Table #5).

**Table #5 - Ohio OARRS Users with Integrated Access in 2021, by User Type**

User Type	Integrated Access
Prescriber	57,194
Pharmacist	6,799
<b>Total</b>	<b>63,993</b>

Integration significantly increased the number of daily OARRS requests by healthcare providers in 2021. For the first time ever, the average number of daily OARRS requests exceeded one million per weekday for each month (see Chart #9).



## REQUIRED USE OF OARRS

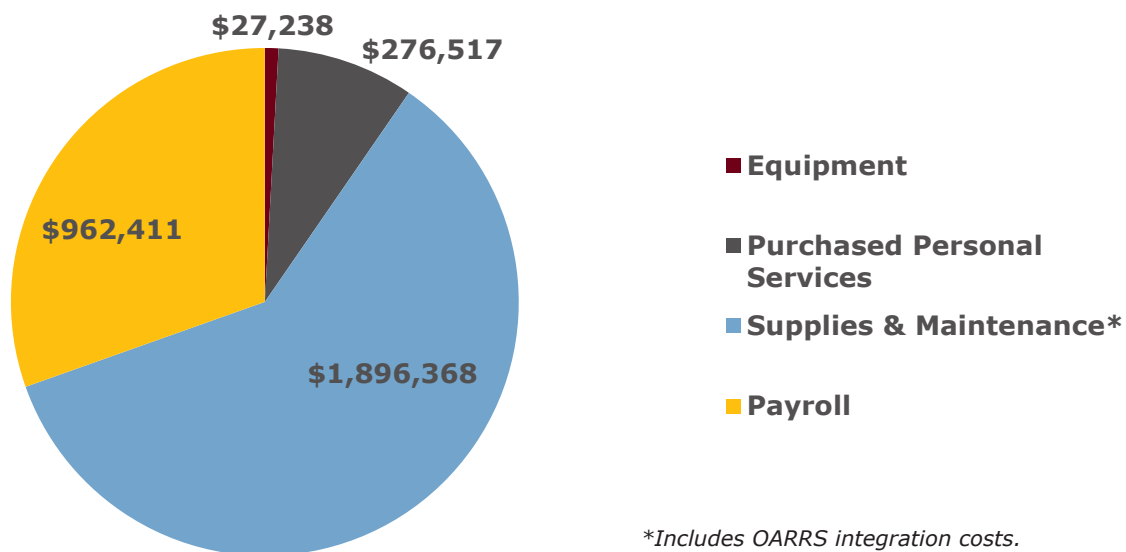
Ohio laws and rules require the use of OARRS by prescribers and pharmacists. For more information on the requirements for checking OARRS, visit: [www.pharmacy.ohio.gov/check](http://www.pharmacy.ohio.gov/check).

# Section 8: Biennial Report

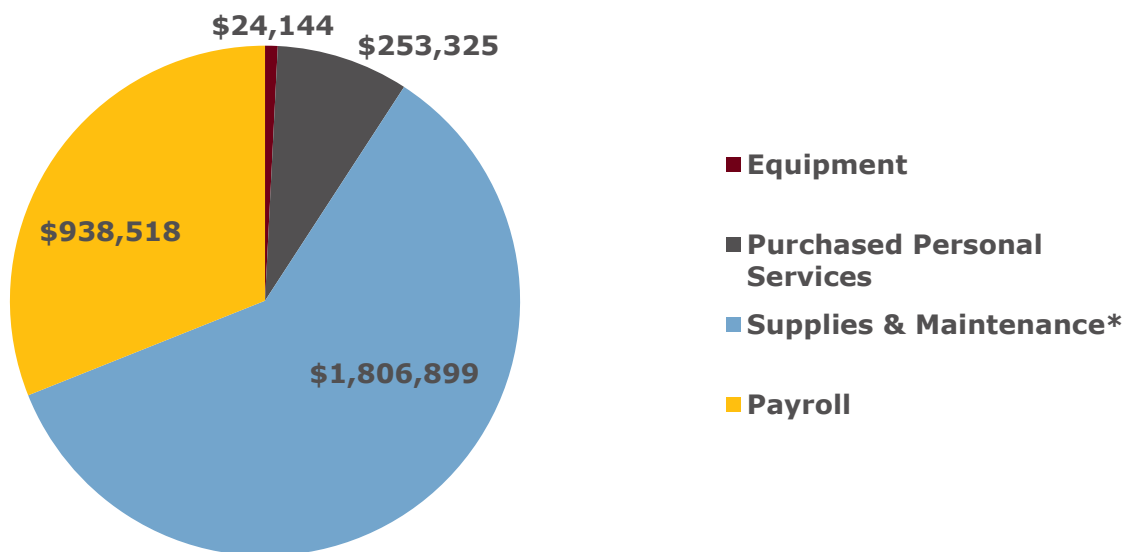
Pursuant to section 4729.85 of the Revised Code, the State of Ohio Board of Pharmacy submits the following biennial report that includes all of the following:

## (1) The cost to the state of establishing and maintaining OARRS:

**Chart #10 - OARRS Operating Costs, SFY 2020**



**Chart #11 - OARRS Operating Costs, SFY 2021**



## (2) The board's effectiveness in providing information from the database:

In 2021, OARRS automatically responded to 99.6% of the user requests for OARRS reports. The remaining reports (approx. half of a percent) required manual processing by Board of Pharmacy staff.

## (3) The board's timeliness in transmitting information from the database:

In 2021, the average processing time for an OARRS patient report was 1.37 seconds.



**STATE OF  
OHIO**  
BOARD OF PHARMACY

The State of Ohio Board of Pharmacy is committed to protecting the health and safety of all Ohioans through the administration and enforcement of laws governing the legal distribution of dangerous drugs and the practice of pharmacy. Should you need any assistance or additional information, please do not hesitate to contact the Board.

### Board Members

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