

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss.

SUPERIOR COURT
C.A. No.

COMMONWEALTH OF MASSACHUSETTS,
Plaintiff

v.

CARDINAL HEALTH, INC., MCKESSON
CORPORATION, AND AMERISOURCEBERGEN
DRUG CORPORATION,
Defendants.

RECEIVED
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SUPERIOR COURT CIVIL
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I. PRELIMINARY STATEMENT

1. Every year, drug distributors AmerisourceBergen Drug Corporation, Cardinal Health, Inc. and McKesson Corporation (collectively the “Distributors”) ship to Massachusetts millions of doses of Schedule II and III opioids—those most subject to misuse and diversion. Since drug companies began pumping up opioid sales in the 1990s, these three Distributors shipped more than one billion opioid pills, patches, and lollipops into Massachusetts.¹

2. The Distributors have a legal obligation to detect, block, and report suspicious orders of controlled substances. This is necessary to protect patients and so that the drugs they ship are not diverted onto the black market.

3. The evidence gathered during the Attorney General’s investigation shows that the Distributors failed to implement adequate suspicious order monitoring systems and shipped

¹ According to 2006-2014 data reported to the Drug Enforcement Agency through Automation of Reports and Consolidated Orders System (“ARCOS”), the Distributors shipped 1,351,677,346 units of Schedule II and III opioids to Massachusetts pharmacies, as follows: (a) AmerisourceBergen, 138,180,873; (b) Cardinal, 752,066,724; and (c) McKesson, 461,429,749. The Appendix summarizes the methods used to analyze ARCOS data.

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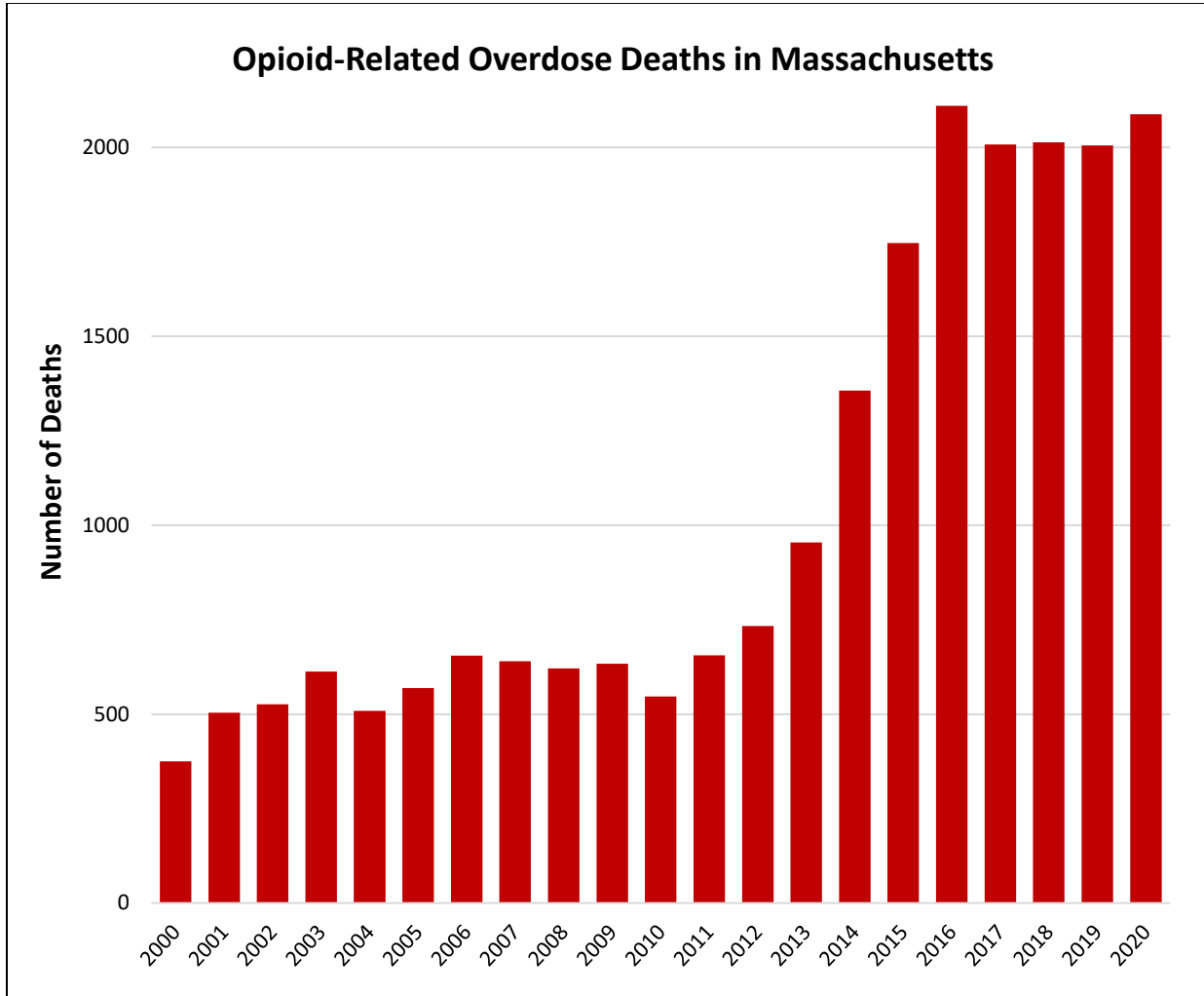
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thousands of suspicious orders without sufficient regard for their legitimacy. They prioritized making money by selling more opioids rather than following the law.

4. The Distributors' misconduct enabled and perpetuated vast increases in opioid over-dispensing and diversion and multiplied the toll of substance use disorder, overdose, and death that the Commonwealth and its residents have endured and will face for years to come.



AGO graph from Massachusetts Department of Public Health data²

² Massachusetts Department of Public Health, Data Brief: Opioid-Related Overdose Deaths among Massachusetts Residents (Nov. 2021), available at <https://www.mass.gov/doc/opioid-related-overdose-deaths-among-ma-residents-november-2021/download>.

5. In significant part because of the Distributors' misconduct, opioid overdoses now kill more than two thousand people in Massachusetts each year – more than car accidents and murders combined.

6. On behalf of the Commonwealth, the Attorney General asks the Court to end the Distributors' illegal conduct and make them pay for the harm they inflicted in our state.

II. PARTIES

7. The plaintiff is the Commonwealth of Massachusetts, represented by Attorney General Maura Healey, who brings this action in the public interest pursuant to G.L. c. 93A, § 4.

8. Defendant Cardinal Health, Inc. is an Ohio corporation with a principal place of business in Dublin, Ohio. Cardinal Health, Inc. and its subsidiaries and affiliates (collectively "Cardinal"), distribute drugs, including opioids, throughout the United States. Last year, Cardinal reported nearly \$170 billion in annual revenue and was ranked as the 14th largest company in the United States.³

9. Defendant McKesson Corporation is a Delaware corporation with a principal place of business in Irving, Texas. McKesson Corporation and its subsidiaries and affiliates (collectively "McKesson"), distributes drugs, including opioids, throughout the United States. Last year, McKesson reported over \$250 billion in annual revenue and was ranked as the 7th largest company in the United States.⁴

10. Defendant AmerisourceBergen Drug Corporation is a Delaware corporation with a principal place of business in Conshohocken, Pennsylvania. AmerisourceBergen Drug

³ Fortune 500, available at <http://fortune.com/fortune500/cardinal-health/>.

⁴ Fortune 500, available at <http://fortune.com/fortune500/mckesson/>.

Corporation and its subsidiaries and affiliates (collectively “Amerisource”), distribute drugs, including opioids, throughout the United States, including the Commonwealth, via a distribution center in Mansfield, Massachusetts. Last year, Amerisource reported over \$189 billion in annual revenue and was ranked as the 8th largest company in the United States.⁵

11. Each Defendant has been licensed as a wholesale distributor of drugs in Massachusetts since 2006. Each time that the Defendants renewed their licenses, they certified that they would comply with the laws of the Commonwealth, including the Massachusetts Controlled Substances Act, G.L. c. 94C.

12. According to the ARCOS data, between 2006 and 2014, Cardinal, McKesson, and Amerisource distributed more than 61% of all pills, patches, lozenges and other doses of opioids dispensed by pharmacies in Massachusetts.

III. JURISDICTION AND VENUE

13. This Court has jurisdiction over the subject matter of this suit pursuant to G.L. c. 93A, § 4 and G.L. c. 214, § 1.

14. This Court has jurisdiction over the Distributors pursuant to G.L. c. 223A, § 3(a)-(d), because the Commonwealth’s claims arise from the Distributors’ transaction of business in the Commonwealth, and from the Distributors’ supplying of goods and services in the Commonwealth, and from the Distributors’ tortious acts and omissions in the Commonwealth.

15. Venue is proper pursuant to G.L. c. 93A, §4 and G.L. c. 223, § 5.

⁵ Fortune 500, available at <http://fortune.com/fortune500/amerisourcebergen/>.

FACTUAL ALLEGATIONS

IV. THE LAW REQUIRES COMPANIES THAT DISTRIBUTE CONTROLLED SUBSTANCES TO IMPLEMENT EFFECTIVE ANTI-DIVERSION SYSTEMS

16. Opioids are addictive and deadly. People using opioids for more than a few days can experience severe withdrawal symptoms if they stop taking them, including anxiety, insomnia, pain, blurry vision, rapid heartbeat, chills, panic attacks, nausea, vomiting, and tremors.

17. Because of opioids' inherent risks, the law requires entities in the opioid supply chain like the Distributors to implement robust systems to protect against diversion, by:

- a. identifying suspicious orders, including “orders of unusual size, orders deviating substantially from a normal pattern, and orders of unusual frequency;”
- b. reporting them to the U.S. Drug Enforcement Administration when discovered; and
- c. blocking their shipment until, through due diligence and independent analysis, they determine the order is unlikely to be diverted from legitimate channels. To do that, they must: (1) request additional information from the pharmacy that placed the order; (2) document the pharmacy's explanation for that order; and (3) engage in follow-up necessary to determine the order's legitimacy.⁶

18. The DEA has explained that “it is incumbent on distributors to maintain effective controls to prevent diversion of controlled substances. Should a distributor deviate from these checks and balances, the closed system created by the [Controlled Substances Act] collapses.”⁷

⁶ See 21 C.F.R. §§ 1301.74. See also *Masters Pharm., Inc. v. Drug Enf't Admin.*, 861 F.3d 206, 212-213, 221 (D.C. Cir. 2017); *Southwood Pharmaceuticals, Inc.; Revocation of Registration*, 72 FR 36487-01, 36500, 2007 WL 1886484 (DEA July 3, 2007).

⁷ Declaration of Joseph Rannazzisi, Deputy Assistant Adm'r, Office of Diversion Control, Drug. Enf't Admin., U.S. Dep't of Justice, ¶ 10, available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=smff0232>.

19. The DEA has repeatedly reminded the Distributors of their suspicious order-related obligations. In September 2006, in response to a “serious and growing health problem in this country,” the DEA sent a letter (“the 2006 Letter”) to the Distributors, to “reiterate the responsibilities of controlled substance distributors in view of the prescription drug abuse problem our nation currently faces.”⁸ The 2006 Letter describes the distributor’s duty to identify suspicious orders, to inform the DEA “of suspicious orders when discovered,” and to “avoid filling suspicious orders that might be diverted[.]”

20. In December 2007, the DEA sent a second letter to the Distributors (“the 2007 Letter”).⁹ The purpose of the 2007 Letter was to “reiterate the responsibilities of controlled substance manufacturers and distributors to inform DEA of suspicious orders.” The letter reminded distributors of their obligation to “inform the local DEA Division Office of suspicious orders when discovered by the registrant,” explaining:

Filing a monthly report of completed transactions (e.g., “excessive purchase report” or “high unit purchases”) does not meet the regulatory requirement to report suspicious orders. Registrants are reminded that their responsibility does not end merely with the filing of a suspicious order report. Registrants must conduct an independent analysis of suspicious orders prior to completing a sale to determine whether the controlled substances are likely to be diverted from legitimate channels. Reporting an order as suspicious will not absolve the registrant of responsibility if the registrant knew, or should have known, that the controlled substances were being diverted.

⁸ See Letter from Joseph T. Rannazzisi, Deputy Assistant Adm’r, Office of Diversion Control, Drug. Enf’t Admin., U.S. Dep’t of Justice, to Cardinal Health (Sept. 27, 2006), available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=qjbf0232>.

⁹ See Letter from Joseph T. Rannazzisi, Deputy Assistant Adm’r, Office of Diversion Control, Drug. Enf’t Admin., U.S. Dep’t of Justice, to Cardinal Health (Dec. 27, 2007), available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=qjbf0232>.

V. THE DISTRIBUTORS FAILED TO IMPLEMENT EFFECTIVE ANTI-DIVERSION SYSTEMS FOR MORE THAN A DECADE

21. In 2007 and 2008, the DEA entered into a series of settlements with the Distributors resolving allegations that they had failed to block and report suspicious controlled substances orders:

- a. In June 2007, Amerisource entered into a settlement with the DEA that resulted in the suspension of one of its distribution center's DEA registrations and its agreement to implement a new controlled substance order monitoring program.¹⁰ Before 2007, Amerisource reported suspicious orders only after shipping them.¹¹
- b. In May 2008, McKesson entered into a settlement with the DEA to resolve allegations that it failed to maintain adequate controls against diversion, failed to report thefts and losses of controlled substances, and failed to detect and report suspicious orders of controlled substances.¹² McKesson paid \$13 million in civil penalties and agreed to implement its first written controlled substances monitoring program.
- c. In October 2008, after DEA issued Orders to Show Cause against four Cardinal distribution centers, Cardinal entered into a settlement with the DEA, pursuant to which it paid \$34 million in penalties and agreed to develop standard operating

¹⁰ See Press Release, Drug Enforcement Administration, *DEA Suspends Orlando Branch of Drug Company from Distributing Controlled Substances* (April 24, 2007), available at <https://www.dea.gov/sites/default/files/divisions/mia/2007/mia042407p.html>; *AmerisourceBergen Signs Agreement With DEA* (June 22, 2007), available at <https://www.sec.gov/Archives/edgar/data/1140859/000119312507141013/dex991.htm>.

¹¹ See Deposition of Christopher Zimmerman, In Re: National Prescription Opiate Litigation, at 28-29, available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=qswf0232>.

¹² May 2, 2008 Settlement and Release Agreement and Administrative Memorandum of Agreement, available at https://www.dea.gov/sites/default/files/2018-06/Pharmaceutical%20Agreements%20-%20McKesson%20-%202008_0.pdf.

procedures to control against diversion.¹³ Until 2008, Cardinal had no electronic system for analyzing suspicious orders, and the system it did have was, according to an outside audit firm, “[in]sufficient to monitor deviations in ordering patterns on a real time basis.”¹⁴

22. The Distributors remained undeterred. Notwithstanding the 2006 and 2007 Letters and the 2007 and 2008 DEA settlements, the Distributors failed to implement adequate suspicious order monitoring systems (“SOMS”). Families across Massachusetts suffered as a result.

A. The Distributors Rigged Their SOMS To Avoid Suspicious Order Reporting Obligations.

23. The Distributors rigged their SOMS to ensure controlled substances orders would *not* be identified as suspicious or blocked, so that their business could continue unhindered.

24. First, the Distributors purported to limit the number of units of a drug their pharmacy customers could buy based primarily on monthly limits on dosage units (usually pills) known as “thresholds,” but their thresholds failed to account for:

- a. dosages – a 5-milligram tablet and an 80-milligram tablet were treated the same, even though the 80-milligram tablet contained 16 times the amount of addictive drug and was more subject to diversion; and
- b. population of the area where the pharmacy was located, taking into account other nearby pharmacies.

¹³ Press Release, U.S. Dep’t of Justice, *Cardinal Health Inc. Agrees To Pay \$34 Million To Settle Claims That It Failed To Report Suspicious Sales Of Widely-Abused Controlled Substances* (Oct. 2, 2008), Dec. 23, 2016) available at https://www.justice.gov/archive/usao/co/news/2008/October08/10_2_08.html.

¹⁴ Cegedim Dendrite Report, Initial Findings and Recommendations on Cardinal Healthcare's Suspicious Order Monitoring System at 4 (Jan. 23, 2008), available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=mxyc0230>.

25. The Distributors also set the thresholds artificially high (based on multiples of average monthly orders or dispensing history), declined to count “direct ship” orders against the thresholds,¹⁵ and in the case of CVS, Cardinal’s largest Massachusetts customer, deferred to CVS’s request to set its own thresholds, and without review of CVS’s compliance programs or dispensing data, which CVS refused to provide.¹⁶ These dangerous practices made it far less likely that the threshold would ever be reached or that an order would be tagged as suspicious and blocked.

26. Second, the Distributors’ SOMS failed to require collection and review of data that would enable them to identify known red flags of diversion, for example, information regarding past government investigations or discipline of the pharmacy relating to controlled substances; significant distance between patients, prescribers and pharmacies; out-of-state patients or vehicles in the parking lot; and information about suspicious prescribers.

27. The defects in the Distributors’ SOMS were further compounded by the manner in which the Distributors implemented them: allowing staff to approve orders that exceeded thresholds and to increase thresholds, without proper oversight or diligence, sometimes within minutes after a request was submitted—not enough time to scrutinize the request, the customer, or any supporting data provided.

¹⁵ See Deposition of David May at 16-17, In Re: National Prescription Opiate Litigation, available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=qswf0232>.

¹⁶ See, e.g., Cardinal- CVS Wholesale Supply Agreement at 10 (2009) (“both the Threshold Quantity and the Adjustment Percentage can be set to any value CVS deems appropriate”), available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=nkpw0232>. See also Deposition of Donald Walker at 201-204, In Re: National Prescription Opiate Litigation (testimony from McKesson’s Senior Director of Distribution Operations confirming that McKesson also deferred to chain customers to set their own thresholds), available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=fzwf0232>.

28. Instead of protecting the public from dangerous pharmacies, the Distributors conspired with those pharmacies to keep the drugs flowing. The Distributors warned their highest-volume opioid customers when they were nearing their monthly threshold limit, so that they could structure their orders to avoid hitting thresholds or seek threshold increases before placing an order that would otherwise be blocked. Many of these pharmacies were later suspended, terminated, or disciplined. Hundreds of patients who received opioids from those pharmacies in Massachusetts died from opioid-related overdoses.

29. The Distributors also under-staffed and under-resourced their SOMS-related functions, in some cases, delegating compliance functions to sales personnel whose incentives conflicted with the Distributors' compliance obligations. A regulatory compliance officer for McKesson's Northeast region (which included Massachusetts) summarized the problem he faced:

I am overwhelmed. I feel that I am going down a river without a paddle and fighting the rapids. Sooner or later, hopefully later I feel we will be burned by a customer that did not get enough due diligence.¹⁷

30. An August 2015 external review of Amerisource's diversion prevention measures concluded that the compliance staff did not receive "much in the way of formal training," were "overwhelmed by the volume of activities they are required to perform," and were plagued by "lack of direction" from management. Some compliance staff stated they were "constantly

¹⁷ *Plaintiffs' Motion For Partial Summary Adjudication That Defendants Did Not Comply With Their Duties Under The Federal Controlled Substances Act To Report Suspicious Opioid Orders And Not Ship Them*, In Re: National Prescription Opiate Litigation at 85, Case No. 17-md-2804 (Doc. No. 1910).

putting out fires,” and the division as a whole suffered from a “lack of access to timely and comprehensive information.”¹⁸

B. The Distributors Shipped Massive Amounts of Opioids to Pharmacies That Showed Clear Signs of Suspicious Activity.

31. Notwithstanding the 2007 and 2008 DEA settlements, the Distributors shipped Massachusetts pharmacies hundreds of suspicious orders without reporting them and without appropriate diligence or investigation.

32. A federal investigation of McKesson’s conduct after its 2008 settlement with the DEA concluded that in the years after that settlement: “McKesson failed to properly monitor its sales of controlled substances and/or report suspicious orders to DEA, in accordance with McKesson’s obligations under the 2008 Agreements, the Act, and 21 C.F.R. § 1301.74(b)” and, further, that “McKesson failed to conduct adequate due diligence of its customers, failed to keep complete and accurate records in the CSMP [controlled substances monitoring program] files maintained for many of its customers, and bypassed suspicious order reporting procedures set forth in the McKesson CSMP.”¹⁹ In addition, it concluded that a number of McKesson Distribution Centers, including one in Methuen, Massachusetts, “distributed controlled substances to pharmacies even though those McKesson Distribution Centers should have known that the pharmacists practicing within those pharmacies had failed to fulfill their corresponding responsibility to ensure that controlled substances were dispensed pursuant to prescriptions

¹⁸ See Deposition of David May, In Re: National Prescription Opiate Litigation, at 141-142, available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=qswf0232>.

¹⁹ See Press Release, U.S. Dep’t of Justice, *McKesson Agrees to Pay Record \$150 Million Settlement for Failure to Report Suspicious Orders of Pharmaceutical Drugs* (Jan. 17, 2017), available at <https://www.justice.gov/opa/pr/mckesson-agrees-pay-record-150-million-settlement-failure-report-suspicious-orders>

issued for legitimate medical purposes by practitioners acting in the usual course of their professional practice, as required by 21 C.F.R § 1306.04(a).”²⁰

33. A federal investigation of Cardinal’s conduct after its 2007 settlement with the DEA concluded that Cardinal violated the federal Controlled Substances Act across the nation. In the resulting settlement, in 2016, Cardinal agreed to pay \$44 million and admitted that, from 2009 to 2012, it failed to report certain suspicious orders as required.²¹

34. During a May 2018 Congressional hearing, Cardinal’s Chairman George Barrett admitted that Cardinal’s decision on whether to continue to ship to a pharmacy was purely subjective. When he was questioned about an instance where Cardinal continued to ship to a pharmacy despite serious diversion concerns, Barrett said: “I think we had a system that allowed for too much subjectivity about the legitimacy of a pharmacy.”²²

C. The Distributors Shipped Thousands Of Suspicious Orders To Pharmacies In Massachusetts.

35. The results of the deficiencies of the Distributors’ SOMS were foreseeable: the Distributors shipped millions of opioid pills to Massachusetts pharmacies whose dispensing behaviors bore obvious red flags. Their failure put the public at risk, and thousands of Massachusetts residents overdosed and died.

²⁰ See *id.*

²¹ Press Release, U.S. Dep’t of Justice, *Cardinal Health Agrees to \$44 Million Settlement for Alleged Violations of Controlled Substances Act* (Dec. 23, 2016) available at <https://www.justice.gov/usao-md/pr/cardinal-health-agrees-44-million-settlement-alleged-violations-controlled-substances-act>.

²² *Combatting the opioid epidemic: examining concerns about distribution and diversion: Hearing Before The United States House Of Representatives Committee On Energy And Commerce, Subcommittee On Oversight And Investigations*, May 8, 2018, transcript available at <https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/20180508-OI%20Combating%20the%20Opioid%20Epidemic%20Examining%20Concerns%20About%20Distribution%20and%20Diversion.pdf>.

CVS Pharmacy

36. CVS Pharmacy has been Cardinal's largest Massachusetts pharmacy customer since 2006, accounting for about three quarters of Cardinal's opioid orders by pharmacies in Massachusetts, and more than one third of all opioids distributed to pharmacies in the Commonwealth

37. Notwithstanding the volume of controlled substances Cardinal distributed to CVS and Cardinal's legal obligations to identify, report and block suspicious orders, Cardinal allowed CVS to set its own thresholds and effectively exempted CVS from suspicious order monitoring.²³

38. Former Cardinal Health Director of Supply Chain Integrity, Steve Morse, confirmed this practice for chain pharmacies, particularly with respect to CVS.²⁴ Morse testified that despite Cardinal's written policy requiring pharmacies to provide drug utilization reports, sales data, and prescriber information – and providing that a pharmacy's refusal to provide such information would be a red flag – Cardinal continued to distribute to CVS huge volumes of opioids even when CVS refused multiple requests for this information.

39. Had Cardinal conducted appropriate due diligence of Massachusetts CVS stores, it would have seen thousands of troubling opioid prescriptions. Cardinal would have seen, for example, thousands of prescriptions for very high doses of opioids, often for long periods of time and in dangerous combinations with other opioids, benzodiazepines (like Valium), and muscle

²³ July 1, 2009 Wholesale Supply Agreement at 11 (“both the Threshold Quantity and the Adjustment Percentage can be set to any value CVS deems appropriate”), available at <https://www.industrydocuments.ucsf.edu/drug/docs/#id=nkpw0232>.

²⁴ See *Plaintiffs' Motion For Partial Summary Adjudication That Defendants Did Not Comply With Their Duties Under The Federal Controlled Substances Act To Report Suspicious Opioid Orders And Not Ship Them* at 74, In Re: National Prescription Opiate Litigation, Case: 1:17-md-02804-DAP, Doc. No. 1910-1 (N.D. Ohio, July 19, 2019).

relaxants, including 8,901 prescriptions for over 200 MMEs²⁵ per day for 688 patients who overdosed and died, since 2009.²⁶

40. Cardinal also would have seen thousands of dangerous opioid prescriptions written by prescribers whose prescriptions bore numerous red flags and were later convicted of illegal prescribing. Among the dangerous prescribers whose prescriptions CVS filled were Dr. Fathalla Mashali, who ran pain clinics in Holbrook, Weymouth, Winchester, Worcester, and Rhode Island and Dr. Fernando Jayma, a doctor in Ludlow.

41. Drug company sales reps who visited these doctors identified numerous red flags. For example, in June 2010, Jayma told a Purdue sales rep pushing OxyContin that many of his patients had failed drug screens and doctor shopped. In August 2011, Jayma told Purdue that he wrote six months' worth of prescriptions at a time and patients just came in and picked them up. In October 2011, Jayma told Purdue that an insurer was denying his OxyContin prescriptions. In May 2013, Purdue's rep reported that Jayma was seeing a lot of patients from a doctor who had been arrested for improper prescribing and had his license seized.

42. Later in 2013, a sales rep described the scene at Jayma's office:

Upon entering office it did not appear to be the typical internal med/general medicine practice. All patients appeared to be there for pain management and no other health concerns ... While in the office the police had arrived because there had been 2 prescription pads stolen by a girlfriend of a patient. She tried to fill rx

²⁵ Morphine Milligram Equivalent (“MME”) is a measurement used to compare the relative potency of different opioid substances to morphine. For example, the MME conversion factor for oxycodone is 1.5, meaning that oxycodone is approximately 1.5 times as potent as morphine. *See* U.S. Centers for Disease Control and Prevention, <https://www.cdc.gov/drugoverdose/prescribing/guideline.html>.

²⁶ In 2016, the New England Journal of Medicine reported on the danger of high doses of opioids: “Overdose risk increases in a dose–response manner, at least doubling at 50 to 99 morphine milligram equivalents (MME) per day and increasing by a factor of up to 9 at 100 or more MME per day, as compared with doses of less than 20 MME per day. Overall, 1 of every 550 patients started on opioid therapy died of opioid-related causes a median of 2.6 years after the first opioid prescription; the proportion was as high as 1 in 32 among patients receiving doses of 200 MME or higher. We know of no other medication routinely used for a nonfatal condition that kills patients so frequently.”

at local Stop and Shop and was turned down. [The medical assistant] further stated that they do see out of state patients and do not take drivers licenses and insurance card at time of check in. She stated that Rite Aid pharmacy as a corporation will not fill any of dr.'s Rx's. Many other local pharmacies require additional information.

In 2017, Jayma was convicted of illegally prescribing controlled substances and was sentenced to two-and-a-half years in the house of correction.

43. The red flags regarding Mashali's practice were also abundant. In January 2012, a Purdue sales rep reported hearing that the DEA was investigating Mashali's office in Rhode Island. More than a year after that, in June 2013, the sales rep noted that she visited Mashali's office to follow up on a "rumor I heard about him losing his license." In an email, her manager worried about the bottom line: "Dr. Mashali is the largest prescriber of OxyContin in the District and most likely the Region." He was cutting back on OxyContin "because of so much scrutiny he's under."

44. The sales rep wrote:

on several occasions recently when calling on his office patients are literally lined out the door. I have spoken with this staff and some of these patients are waiting up to 4-5 hours before being seen by Dr Mashali. In addition, approximately 3 months ago he is no longer taking [Blue Cross Blue Shield] of MA. Dr Mashali claims it is because BCBS of MA, I could never get a straight answer. I suspect it could be for other reasons.... BCBS is not comfortable with the way he is practicing and trying to get reimbursement. Dr Mashali did state for many office visits he is now making patients pay cash for their office visits ... Based on my observations and gut feeling including comments from other pain physicians in the area, lately there appears to be too many red flags with Dr Mashali.

In 2013, the Rhode Island Board of Medicine revoked Mashali's license, finding that he was "an immediate threat to the health, welfare and safety of the public."²⁷ Mashali was later convicted of 27 counts of health care fraud and sentenced to eight years in prison.²⁸

45. Massachusetts CVS stores dispensed thousands of dangerous opioid prescriptions written by Jayma and Mashali, including 887 prescriptions for 87 patients who overdosed and died.

Injured Worker's Pharmacy, Andover, Massachusetts

46. Injured Workers Pharmacy ("IWP") is a Massachusetts-based mail-order pharmacy that dispenses and ships prescription drugs, including controlled substances primarily to workers who are injured on the job. IWP was a top customer of both McKesson and Cardinal. According to ARCOS data, from 2006 to 2014, McKesson and Cardinal shipped IWP more than 64 million pills, patches, lozenges, and other doses of opioids.

47. Had McKesson or Cardinal undertaken appropriate diligence, they would have seen that IWP was dispensing thousands of prescriptions for large quantities of highly addictive opioids, including in dangerous combinations with other opioids, benzodiazepines, and muscle relaxants; and thousands of controlled substances prescriptions written by prescribers whose prescriptions bore numerous red flags and were later charged, convicted or sanctioned for improperly prescribing opioids.

48. For example, from 2002 through 2016, IWP dispensed from its Massachusetts

²⁷ Summary Suspension of Physician License (Aug. 29, 2013), available at <https://health.ri.gov/discipline/MDFathallaMashali.pdf>.

²⁸ Press Release, U.S. Dep't of Justice, *Pain Management Physician Pleads Guilty to Health Care Fraud and Money Laundering* (Mar. 15, 2017), available at <https://www.justice.gov/usao-ma/pr/pain-management-physician-pleads-guilty-health-care-fraud-and-money-laundering>.

headquarters over 322,000 opioid pills prescribed by New York doctor Eugene Gosy. According to a 166-count indictment by the United States Justice Department, Gosy’s practice issued more prescriptions for controlled substances annually than any other prescriber or prescribing entity in New York State, including hospitals.²⁹ The indictment alleged that Gosy prescribed controlled substances: without adequately examining his patients; in ways that caused and contributed to dependence and addiction; in dosages and in combinations dangerous to the health and safety of the patient; despite indications that patients were abusing and misusing the prescribed controlled substances; and despite knowing that such patients had overdosed, or had otherwise been hospitalized for conditions relating to misuse of controlled substances. Gosy pled guilty to conspiracy to commit health care fraud and illegally prescribing opioids for other than legitimate medical purposes. At least six of his patients were killed.³⁰

49. From 2006 through 2015, IWP dispensed from its Massachusetts headquarters over 106,000 opioid pills prescribed by Alabama doctors John Couch and Xiulu Ruan. According to federal criminal charges, Couch and Ruan ran “a pill mill.”³¹ Couch and Ruan each prescribed opioids without a legitimate medical purpose, prescribed opioids to an undercover agent without examining them, and took bribes and kickbacks in exchange for the

²⁹ See Press Release, U.S. Dep’t of Justice, *Federal Grand Jury Returns 166 Count Superseding Indictment Against Local Doctor Whose Medical Practice Is Charged With Unlawfully Prescribing Controlled Substances Resulting In The Death Of Six Patients* (Nov. 7, 2017), <https://www.justice.gov/usao-wdny/pr/federal-grand-jury-returns-166-count-superseding-indictment-against-local-doctor-whose>.

³⁰ See Mike Baggerman, *Gosy pleads guilty to illegally prescribing opioids & fraud*, WBEN 930 AM (Jan. 7, 2020), <https://wben.radio.com/articles/gosy-pleads-guilty-to-illegally-prescribing-opioids-fraud>.

³¹ See U.S. Dep’t of Justice, *Dr. Couch and Dr. Ruan Sentenced to 240 and 252 Months In Federal Prison For Running Massive Pill Mill* (May 26, 2017), <https://www.justice.gov/usao-sdal/pr/dr-couch-and-dr-ruan-sentenced-240-and-252-months-federal-prison-running-massive-pill>.

prescribing and dispensing certain drugs with high reimbursement rates.³² Couch and Ruan were sentenced to 240 and 252 months in federal prison.

50. From 2002 to 2017, IWP dispensed over 78,000 opioid pills prescribed by Dr. Raymond Kraynak in Pennsylvania. Kraynak was running a pill mill: between January 2016 and July 2017 alone, he prescribed approximately 2.7 million units of opioids to 2,838 patients and was the top prescriber of opioids in Pennsylvania during that time. In 2021, Kraynak pled guilty to 12 counts of unlawful distribution and dispensing of a controlled substance. Kraynak also admitted that the opioids he prescribed resulted in the deaths of five of his patients.³³

51. At least 9 Massachusetts residents overdosed and died after filling opioid prescriptions at IWP Pharmacy.

52. On June 24, 2020, the Commonwealth filed a complaint in this Court against IWP alleging it failed to implement adequate dispensing safeguards and dispensed and shipped thousands of controlled substance prescriptions without sufficient regard for their legitimacy. The Commonwealth and IWP resolved the Complaint by entry of a Final Judgment by Consent, entered by the Court on July 3, 2020, requiring IWP to overhaul its dispensing practices and pay \$11 million.

³² See Second Superseding Indictment at ¶¶ 28, 50, *U.S. v. John Patrick Couch, MD and Xiulu Ruan, MD*, Crim No. 15-00088-CG, USAO No. 13R00521 (S.D. Al.) (Doc. 269, April 28, 2016), available at <https://sc.cnbcfm.com/applications/cnbc.com/resources/editorialfiles/2018/03/02/US%20v%20Couch%20and%20Ruan%20Indictment.pdf>.

³³ See Press Release, U.S. Dep't of Justice, *Mt. Carmel Doctor Pleads Guilty To Operating A Massive "Pill Mill"* (Sept. 24, 2021), <https://www.justice.gov/usao-mdpa/pr/mt-carmel-doctor-pleads-guilty-operating-massive-pill-mill>.

Eaton Apothecary

53. Eaton Apothecary, a chain with locations in Brockton, Canton, Dorchester, East Boston, Framingham, Gloucester, Lynn, Milford, Peabody, Salem, South Boston and Woburn, was another top customer of McKesson and Amerisource. According to ARCOS data, from 2006 to 2014, McKesson and Amerisource shipped more than 10 million pills, patches, lozenges, and other doses of opioids to Eaton Apothecary.

54. In early 2016, an investigation by the state's Department of Public Health found Eaton's Canton location dispensed Schedule II drugs without a signed prescription on more than 2,000 occasions between January 2012 and January 2016. The investigation resulted in entry of a Consent Agreement for Probation.³⁴

55. At least 208 Massachusetts residents overdosed and died after filling opioid prescriptions at Eaton Apothecary.

PharMerica, Brockton, Massachusetts³⁵

56. According to ARCOS data, PharMerica's Brockton location was Amerisource's largest single facility opioid customer in Massachusetts every year from 2011 to 2013 – getting more than three times as many opioids as any other individual pharmacy. Between 2006 and

³⁴ Consent Agreement for Probation, *In the Matter of Eaton Apothecary #3060* (Feb. 1, 2017), available at <https://www.mass.gov/doc/eaton-apothecary-3060-consent-agreement-for-probation/download>. See also Press Release, U.S. Dep't of Justice, U.S. Attorney's Office, *Tufts Medical Center & Local Pharmacy Chain Settle Alleged Violations of Controlled Substances Act During National Prescription Opioid Awareness Week* (Sept. 20, 2016) available at <https://www.justice.gov/usao-ma/pr/tufts-medical-center-local-pharmacy-chain-settle-alleged-violations-controlled-substances>.

³⁵ PharMerica was formed in January 2007 from the merger of Kindred Healthcare's pharmacy business with a subsidiary of AmerisourceBergen. In December 2017 it was acquired by a newly formed company controlled by global investment firm KKR, with an affiliate of Walgreens Boots Alliance as a minority investor. See Lois A. Bowers, *\$1.4 billion PharMerica acquisition by KKR complete; growth in assisted living arena expected*, McKnight's Senior Living, Dec. 8, 2017.

2014, Amerisource and Cardinal shipped more than 21 million pills, patches, lozenges, and other doses of opioids to PharMerica.

57. In 2015, PharMerica's Brockton location settled a U.S. Department of Justice lawsuit alleging nationwide violations of the Controlled Substances Act; the DOJ alleged that PharMerica had routinely dispensed Schedule II controlled drugs such as oxycodone and fentanyl without first obtaining written prescriptions from treating physicians.³⁶

58. At least 179 Massachusetts residents overdosed and died after filling opioid prescriptions from PharMerica's Brockton location.

Alexander's Pharmacy, Dracut, Massachusetts

59. Alexander's Pharmacy in Dracut, Massachusetts, purchased substantial quantities of opioids from McKesson and Amerisource. Dracut has a population of approximately 31,000, and there are several other pharmacies located in the town, yet Alexander's was consistently among the top Massachusetts pharmacies in controlled substances purchases and among McKesson and Amerisource's top opioid customers, by MME, in Massachusetts. According to the ARCOS data, between 2006 and 2014, McKesson and Amerisource shipped more than 6 million pills, patches, lozenges, and other doses of opioids to Alexander's.

60. In 2016, Alexander's entered a Consent Agreement with Board of Registration in Pharmacy relating to its handling of controlled substances³⁷ and settled allegations by the U.S.

³⁶ Press Release, U.S. Dep't of Justice, *Long-Term Care Pharmacy To Pay 31.5 Million To Settle Lawsuit Alleging Violation of Controlled Substances Act and False Claims Act* (May 14, 2015), available at <https://www.justice.gov/opa/pr/long-term-care-pharmacy-pay-315-million-settle-lawsuit-alleging-violations-controlled>

³⁷ Consent Agreement for Probation, *In the Matter of Alexander's Pharmacy*, Docket No. PHA-2015-0082 (Jan. 29, 2016), available at <https://www.mass.gov/files/documents/2016/07/nh/alexanders-ca.pdf>

Department of Justice that it had been engaged in improper dispensing of controlled substances and failed maintain effective controls against diversion.³⁸

61. At least 57 Massachusetts residents overdosed and died after filling opioid prescriptions at Alexander's Pharmacy.

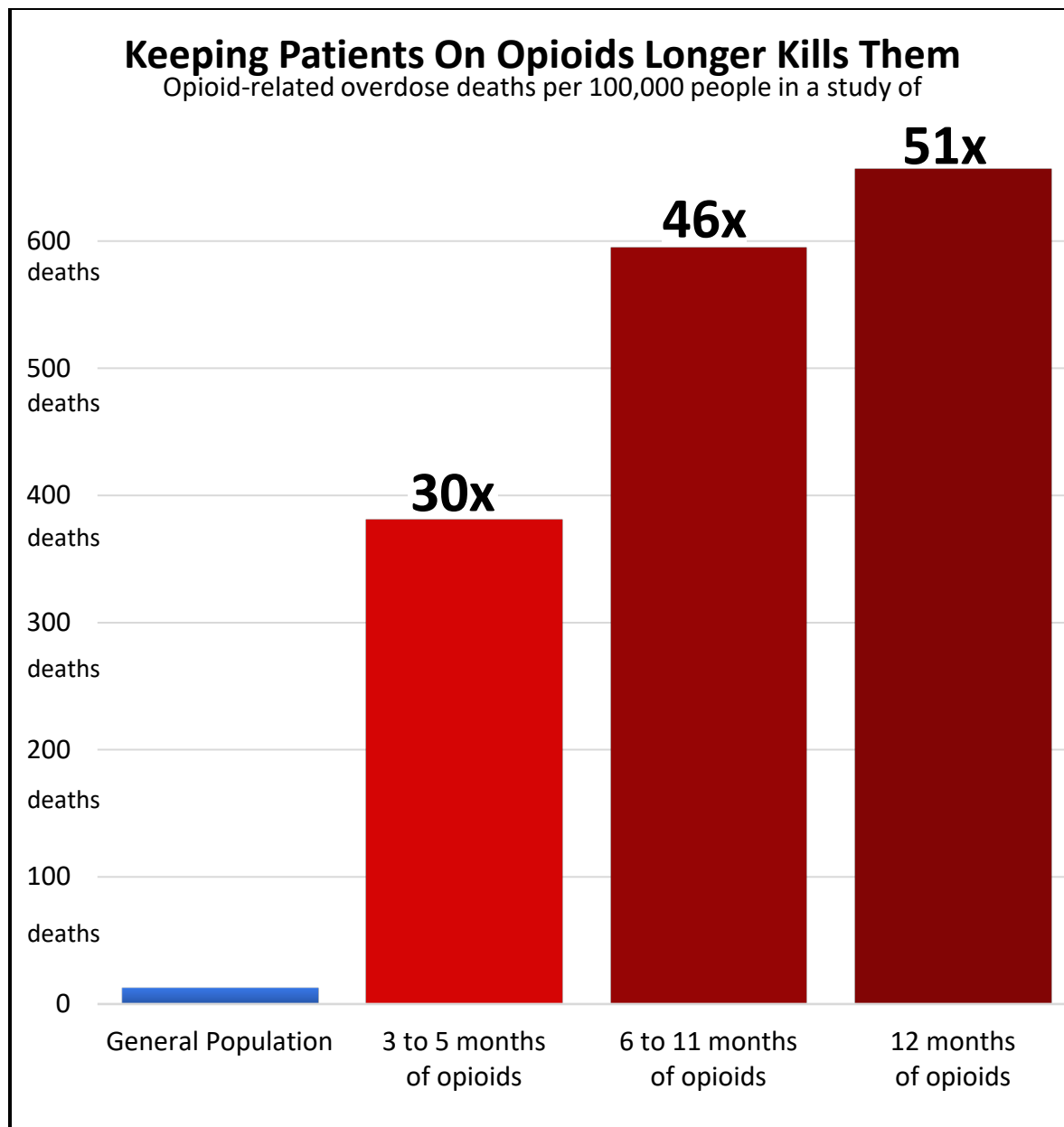
VI. THE PRESCRIPTION OPIOIDS SHIPPED BY THE DISTRIBUTORS FUELED A PUBLIC HEALTH CRISIS OF ADDICTION, OVERDOSE, AND DEATH

62. As shown in the figure accompanying paragraph 4, the dramatic increase in opioids shipped by the Distributors was followed by a dramatic increase in opioid overdose deaths. Evidence shows that the relationship between corporations turbocharging opioid sales and Massachusetts residents dying from opioid overdoses is not an innocent coincidence; instead, lawbreaking by major corporations, including the Distributors, caused much of the opioid crisis.

63. The Massachusetts Department of Public Health studied more than a million real Massachusetts patients during the years of the Distributors' misconduct and found that staying on prescription opioids longer dangerously increases the risk of overdose death. Compared to the general population, a patient who receives three months of prescribed opioids is **30 times** more likely to overdose and die. A patient who stays on prescription opioids for 6-11 months is **46 times** more likely to die. And a patient who stays on prescription opioids for a year is **51 times** more likely to die.³⁹

³⁸ Press Release, U.S. Dep't of Justice, U.S. Attorney's Office, Dracut Pharmacy Settles Improper Dispensing and Recordkeeping Allegations (March 9, 2016) *available at* <https://www.justice.gov/usao-ma/pr/dracut-pharmacy-settles-improper-dispensing-and-recordkeeping-allegations>

³⁹ Massachusetts Department of Public Health, Assessment of Opioid-Related Overdoses in Massachusetts 2011-2015 (Aug. 2017), *available at* <https://www.mass.gov/files/documents/2017/08/31/data-brief-chapter-55-aug-2017.pdf>.



AGO graph from Massachusetts Department of Public Health data

64. Even compared to the most famous deadly and addictive products, these are extraordinary effects. Smoking increases the chance of lung cancer death by less than 51 times.

65. The Massachusetts Attorney General's Office is, to the best of its knowledge, the only law enforcement agency in America that has linked a state's opioid-related overdose deaths

to records of opioid prescriptions.⁴⁰ Those data show the role of the opioid industry in the opioid crisis.

66. From 2009 through the most recent data in September 2021, state records show that more than eighteen thousand Massachusetts residents died of opioid-related overdoses. Many of them filled prescriptions for opioids that the Distributors shipped into Massachusetts. Of the 18,061 people confirmed to have died of opioid-related overdoses since 2009, 12,372 filled prescriptions for Schedule II opioids dispensed by a Massachusetts pharmacy: more than 68%. Many of those patients filled prescriptions for hundreds, or thousands, of pills.

67. The narcotics that the Distributors shipped to Massachusetts pharmacies to be dispensed to these thousands of Massachusetts residents came from the biggest suppliers of the opioid crisis. Mallinckrodt supplied opioids to more than half of all the people who died of overdoses in Massachusetts in the last 12 years: 9,673 people. Meanwhile, the company's blue 30-milligram oxycodone tablets became so identified with the crisis that they earned a street name — "M's," for the company's block-letter logo. Endo, whose infamous drug Opana was ultimately pulled from the market, supplied opioids to 5,934 people in Massachusetts who overdosed and died. Teva and Allergan, generic opioid behemoths, together supplied opioids to 5,794 people in Massachusetts who overdosed and died. Purdue Pharma and its Sackler-owned affiliate Rhodes Pharmaceuticals supplied opioids to 2,967 people in Massachusetts who overdosed and died. Johnson & Johnson, which agreed to pay a \$5 billion nationwide settlement, supplied opioids to 110 people in Massachusetts who overdosed and died.

⁴⁰ See, e.g., Complaint ¶ 18, *Com. v. Purdue Pharma L.P., et al*, C.A. No. 1884-cv-01808 (BLS2) (June 12, 2018) ("An investigation by the Massachusetts Attorney General found that, since 2009, 671 people who filled prescriptions for Purdue opioids in Massachusetts subsequently died of an opioid-related overdose."), available at [https://www.mass.gov/files/documents/2018/06/12/Purdue Complaint FILED.pdf](https://www.mass.gov/files/documents/2018/06/12/Purdue%20Complaint%20FILED.pdf).

Opioid-Related Overdose Deaths in Massachusetts Since 2009

	Deaths	%
All Opioid-Related Overdose Deaths	18,061	
Any prescription opioid	12,372	68%
Mallinckrodt	9,673	53%
Endo	5,934	32%
Teva and Allergan	5,789	32%
Purdue and Rhodes	2,967	16%
Johnson & Johnson	110	0.6%

68. The Distributors’ misconduct has imposed lasting hardship on the people who lost their loved ones. Because of the Distributors’ misconduct, too many children in Massachusetts have lost their parents to an overdose. Too many parents in Massachusetts have buried their children. Too many grandparents in Massachusetts are raising their grandchildren.

69. Fatal overdoses are only part of the devastation that the Distributors and the opioid industry imposed. Purdue Pharma staff reported to the Sacklers that deaths were only the “tip of the iceberg.” The government data presented to Purdue’s board indicated that, for each overdose death, there were more than a hundred people suffering from prescription opioid dependence or abuse. Patients who survive opioid use disorder need lengthy, difficult, and expensive treatment. People affected by substance use disorder are sometimes unable to work. The addiction of parents can force their children into foster care.

70. The Distributors’ misconduct has imposed heavy costs on the people of Massachusetts and on the Commonwealth. Intensive care for a newborn who has been harmed by opioids can cost \$200,000, before the baby even comes home from the hospital. The injuries from opioid use disorder and overdose are staggering. For example, the White House Council of Economic Advisers determined that a middle estimate of the cost of each death from opioid overdose is \$9.6 million.

71. In 2014, the Governor of Massachusetts declared the opioid crisis a public health emergency. The Governor stated: “We have an epidemic of opiate abuse in Massachusetts, so we will treat it like the public health crisis it is.”⁴¹

VII. CAUSES OF ACTION

Count One Unfair and Deceptive Acts and Practices In Violation of G.L. c. 93A, § 2

72. The Commonwealth realleges each allegation above.

73. G.L. c. 93A, § 4 authorizes the Attorney General to bring an action to enjoin persons and entities engaged in trade or commerce from engaging in methods, acts, or practices that violates G.L. c. 93A, § 2.

74. At all times relevant to this Complaint, each Defendant was engaged in the trade or commerce.

75. At all times relevant to this Complaint, Defendants violated G.L. c. 93A, § 2 by engaging in unfair and deceptive acts and practices in connection with their distribution and sale of opioids in Massachusetts, including, without limitation, by: failing to maintain effective controls against opioid diversion as required by the federal Controlled Substances Act and the Massachusetts Controlled Substances Act; failing to implement effective systems to identify, block and investigate suspicious orders as required by the federal Controlled Substances Act and

⁴¹ Marc Larocque, *Gov. Patrick declares public health emergency in wake of heroin epidemic*, Patriot Ledger (Mar. 27, 2014), <https://www.patriotledger.com/article/20140327/NEWS/140326456>; Richard Valdmanis, *Massachusetts declares heroin emergency, looks to anti-overdose drug*, Reuters (Mar. 27, 2014), <https://www.reuters.com/article/usa-heroin-massachusetts-idINL5N0MO5BE20140327>; Bradley J. Fikes, *Zohydro banned in Massachusetts*, Chicago Tribune (Mar. 28, 2014), <https://www.chicagotribune.com/sdut-zohydro-ban-mass-zogenix-deval-2014mar28-story.html>.

the Massachusetts Controlled Substances Act; and shipping massive quantities of opioids to pharmacies bearing multiple red flags of diversion.

76. The Defendants' unfair and deceptive acts and practices resulted in substantial injury to Massachusetts consumers.

77. The Defendants' misconduct was knowing and willful.

78. Each unfair act by each Defendant constitutes a separate and distinct violation of G.L. c. 93A.

79. The Commonwealth's claim is timely.

80. The Attorney General notified each defendant of her intention to file this suit, in conformance with G.L. c. 93A, § 4.

**Count Two
Public Nuisance**

81. The Commonwealth realleges each allegation above.

82. Under Massachusetts common law, a defendant is liable for the tort of public nuisance when their conduct causes an unreasonable interference with a right common to the general public, such as interference with the public health, public safety, public peace, and public comfort and convenience.

83. The Attorney General is empowered to bring a *parens patriae* action on behalf of the Commonwealth for abatement of a public nuisance.

84. Each Defendant was a substantial participant in creating and maintaining a public nuisance of addiction, illness, and death that significantly interferes with the public health, safety, peace, comfort, and convenience.

85. The injuries that the Defendants caused in Massachusetts have been significant and long-lasting, for both the Commonwealth and the public, including: (a) opioid addiction, overdose, and death; (b) health care costs for individuals, children, families, employers, the Commonwealth, and its subdivisions; (c) loss of productivity and harm to the economy of the Commonwealth; and (d) special public costs borne solely by the Commonwealth in its efforts to abate the nuisance and to support the public health, safety, and welfare.

86. The Commonwealth has spent at least hundreds of millions of dollars on special treatment, prevention, intervention, and recovery initiatives to abate the harms of the opioid epidemic.

87. The Commonwealth has a special relationship with, and responsibility to its residents, including its responsibility to uphold the public health, safety, and welfare. Each Defendant had reason to know of this relationship at all times.

88. Each Defendant, at all times, had reason to know of the public nuisance created by their ongoing conduct.

89. The Defendants' unfair conduct was unreasonable in light of the specific requirements imposed on them by the federal Controlled Substances Act and the Massachusetts Controlled Substances Act.

90. The Commonwealth's claim is timely.

VIII. PRAYER FOR RELIEF

WHEREFORE, the Commonwealth respectfully requests that this Court enter an Order:

- a. Issuing a permanent injunction prohibiting Defendants, Defendants' officers, agents, servants, employees, attorneys – and any other person in active concert or participation with any or all Defendants – from engaging in unfair or deceptive acts and practices in violation of G.L. c. 93A, § 2;
- b. Ordering Defendants to pay compensatory restitution, pursuant to G.L. c. 93A, § 4;
- c. Ordering Defendants to abate the public nuisance by paying compensatory restitution;
- d. Ordering Defendants to pay the Commonwealth's attorneys' fees and costs, pursuant to G.L. c. 93A, § 4; and
- e. Ordering any further relief the Court deems just and proper.

Dated: April 28, 2022

Respectfully Submitted,
COMMONWEALTH OF MASSACHUSETTS
By its Attorney
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APPENDIX: DATA METHODS

ARCOS DATA

The Washington Post provides the raw ARCOS dataset at www.washingtonpost.com/national/2019/07/18/how-download-use-dea-pain-pills-database/.

We download the raw ARCOS dataset and decompress using 7-zip. This results in a 200GB .tsv file that uses '|'s as separators. Each line of the file contains one drug shipment (*e.g.*, 30 cartons each with 30 Teva fentanyl lollipops from McKesson to Injured Workers Pharmacy in Andover, MA on March 20, 2006).

We use Python with the pandas and Dask libraries to extract all rows for shipments to addresses in Massachusetts. We make this process more efficient by only extracting the columns we are interested in and leave behind those we do not need (for instance, we do not need the reporter's (*i.e.*, Distributor's) address, so we do not extract it). This method reduces the memory needed and allows us to process larger chunks of data at a time.

We identify shipments to addresses in Massachusetts by checking that the "BUYER_STATE" field equals "MA". We then write these shipments to our new, Massachusetts only, dataset.

We rely on Dask to facilitate computation of such a large dataset. Dask allows us to read the source file in chunks, or "blocks" (in our case `blocksize='256MB'`), and process these sequentially. We note that depending on available memory, smaller block sizes may be required. The ARCOS dataset appears to contain double quotation marks which are not used as text qualifiers. Therefore, we set `quoting=3`, which causes the program to treat such quotation marks as normal text. We optionally set `on_bad_lines='warn'` so that the program does not fail upon reaching a malformed line, although we do not encounter one.

Our code extracts all Massachusetts shipments from each chunk and writes them to a new file. In our case because the original dataset is roughly 200GB and our chunk size is 256MB, our code creates 800 files (one from each chunk).

We use the pandas library and the glob module to combine these files into two larger files. We ensure that each of these larger files is smaller than 2GB to facilitate further analysis using Microsoft Access. We note that we know of no reason why this further analysis could not be accomplished using Python. We therefore take this opportunity to thank all contributors to Python and its Dask and pandas libraries and provide our code below.

ARCOS MA Extractor

```
import dask.dataframe as dd

read_file = "arcos_all_washpost.csv" #the source file
output_folder = "ARCOS_MA" #the folder for the extracted data

#the columns of the read_file that we want in the extracted data
```

```
columns = ['REPORTER_DEA_NO', 'REPORTER_BUS_ACT', 'REPORTER_NAME',
'REPORTER_STATE', 'BUYER_DEA_NO', 'BUYER_BUS_ACT', 'BUYER_NAME', 'BUYER_ADDL_CO_INFO', 'BUYER_ADDRESS1', 'BUYER_ADDRESS2', 'BUYER_CITY', 'BUYER_STATE', 'BUYER_ZIP', 'BUYER_COUNTY', 'TRANSACTION_CODE', 'DRUG_CODE', 'NDC_NO', 'DRUG_NAME', 'QUANTITY', 'UNIT', 'ACTION_INDICATOR', 'ORDER_FORM_NO', 'CORRECTION_NO', 'STRENGTH', 'TRANSACTION_DATE', 'CALC_BASE_WT_IN_GM', 'DOSAGE_UNIT', 'TRANSACTION_ID', 'Product_Name', 'Ingredient_Name', 'Measure', 'MME_Conversion_Factor', 'Combined_Labeler_Name', 'Revised_Company_Name', 'Reporter_family', 'dos_str']
```

```
data = dd.read_csv(read_file, sep='|', blocksize='256MB', dtype='object', usecols=columns, quoting=3, on_bad_lines='warn')
data = data[data['BUYER_STATE']=='MA']
data.to_csv(output_folder, sep='|') #Dask writes files as csv's with a .part file extension
```

Parts Concatenator

```
import pandas as pd
import glob

all_parts = glob.glob("*.part") #selects all files in current directory with .part file extension
li = []

for part in all_parts:
    df =
pd.read_csv(part, sep='|', dtype='object', index_col=None, header=0)
    li.append(df)

frame = pd.concat(li, ignore_index=True)
frame.to_csv("ARCOS_MA_total.csv", sep='|')
```

SQL

We use SQL inside Microsoft Access to further analyze the Massachusetts specific data. To make statements about the total number of “pills, patches, lozenges, and other doses of opioids” sent by a certain distributor or to a certain pharmacy we sum “DOSAGE_UNIT” across all relevant shipments. We note that this method ignores shipments of opioids that do not have an entry for that field (for instance, liquid preparations of opioids that are shipped in vials, and therefore do not have a discrete dosage unit). Our allegations specify that we are counting “pills, patches, lozenges, and other doses of opioids” and often take the form of “at least” statements, which remain true even if one were to include liquid preparations.

For pharmacy specific allegations we search across several of the buyer fields to identify shipments to individual pharmacies. We find the BUYER_NAME field most useful for this, but note that some pharmacies are not identified by their commonly used name (e.g., Eaton Apothecary) and so we also search across the BUYER_ADDL_CO_INFO and BUYER_ADDRESS1 fields, and use alternate search terms specific to each pharmacy (for Eaton Apothecary, we find that most include the corporate name “D.A.W. LLC.” and that PharMerica

appears as Pharmacy Corporation of America and Pharmacy Corp of America). We then export entries that match these search terms to Microsoft Excel where we inspect the buyer fields and only include the ones we want for our final analysis (for Eaton, we include only those in the towns listed in **paragraph 55** and that do not also contain the name Dumouchel).

We list sample SQL queries below where part1 and part2 refer to the two sub-2GB files we created with our Parts Concatenator Python program.

To create a table of all shipments to Betro Pharmacy by the Distributors:

```
SELECT * from Part1 Where Buyer_Name like "*Betro*" AND BUYER_STATE =
"MA" AND (Reporter_Name like "*McKesson*" OR Reporter_Name like
"*Cardinal*" OR Reporter_Name like "*Amerisource*")
UNION ALL SELECT * from Part2 Where Buyer_Name like "*Betro*" AND
BUYER_STATE = "MA" AND (Reporter_Name like "*McKesson*" OR
Reporter_Name like "*Cardinal*" OR Reporter_Name like
"*Amerisource*");
```

Similarly, for Eaton Apothecaries (per the above, we do not include all results in our analysis but filter the relevant ones out in Excel):

```
SELECT * from Part1 Where (Buyer_Name like "*Eaton*" OR Buyer_Address1
like "*Eaton*" OR BUYER_ADDL_CO_INFO like "*Eaton*") AND BUYER_STATE =
"MA" AND (Reporter_Name like "*McKesson*" OR Reporter_Name like
"*Cardinal*" OR Reporter_Name like "*Amerisource*")
UNION ALL SELECT * from Part2 Where (Buyer_Name like "*Eaton*" OR
Buyer_Address1 like "*Eaton*" OR BUYER_ADDL_CO_INFO like "*Eaton*")
AND BUYER_STATE = "MA" AND (Reporter_Name like "*McKesson*" OR
Reporter_Name like "*Cardinal*" OR Reporter_Name like
"*Amerisource*");
```

To sum totals by distributor to pharmacies in Massachusetts:

```
SELECT REPORTER_NAME, Sum(DOSAGE_UNIT) AS SumOfDOSAGE_UNIT FROM (
SELECT REPORTER_NAME, DOSAGE_UNIT FROM Part1 WHERE BUYER_BUS_ACT =
"Chain Pharmacy" OR BUYER_BUS_ACT = "Retail Pharmacy" OR BUYER_BUS_ACT
= "Central Fill Pharmacy" OR BUYER_BUS_ACT = "M/O Pharmacy"
UNION ALL SELECT REPORTER_NAME, DOSAGE_UNIT FROM Part2 WHERE
BUYER_BUS_ACT = "Chain Pharmacy" OR BUYER_BUS_ACT = "Retail Pharmacy"
OR BUYER_BUS_ACT = "Central Fill Pharmacy" OR BUYER_BUS_ACT = "M/O
Pharmacy"
) x GROUP BY REPORTER_NAME;
```

Opioid Deaths Data

We derive statements about opioid overdose deaths associated with pharmacies and drug manufacturers from confidential data collected by the Massachusetts Department of Public Health which we obtain pursuant to G.L. c. 94C, § 24A(f)(6)(B).

An **opioid-related overdose death** is a death for which vital records list at least one of the following underlying cause of death IDC-10 codes: X40-X49, X60-X69, Y10-Y19, Y86, and

X599¹ along with at least one of the following multiple cause of death IDC-10 codes: T40.0, T40.1, T40.2, T40.3, T40.4, and T40.6. The underlying cause of death codes identify the death as a drug overdose or poisoning, and the multiple cause of death codes identify those overdoses that are related to opioids.²

Consistent with DPH methodology, deaths include opioid-related overdose deaths for all intents, which includes unintentional/undetermined and suicide. Opioid-related deaths may also involve other drugs, like benzodiazepines, stimulants, and alcohol, together with opioids. We also note that the underlying records only contain deaths that occurred in Massachusetts.

An **opioid prescription** is a prescription filled by a pharmacy in Massachusetts or sent to a patient in Massachusetts by a pharmacy in another state for a DEA schedule II opioid since 2009.³ We list below all NDC codes (National Drug Code) of opioid products our data contains for patients who died of opioid-related overdoses:

00054023524,	00054415625,	00093573101,	00228402911,	00406012362,	00406324301,	00472103016,
00054023525,	00054415725,	00093573201,	00228427011,	00406012401,	00406324401,	00527135301,
00054023624,	00054437025,	00093573301,	00228427111,	00406012405,	00406324901,	00527135401,
00054023625,	00054439225,	00093573401,	00228431111,	00406012410,	00406330801,	00527135501,
00054023749,	00054439425,	00093586101,	00228432311,	00406012501,	00406331201,	00527142536,
00054023763,	00054449425,	00093586201,	00245042105,	00406012505,	00406331601,	00527142562,
00054023849,	00054457025,	00093690045,	00245042205,	00406036501,	00406345434,	00527142563,
00054023863,	00054457125,	00093690145,	00245042305,	00406036505,	00406575501,	00527142635,
00054024324,	00054458225,	00093690245,	00378265801,	00406036562,	00406577101,	00527142636,
00054024424,	00054458325,	00093690345,	00378265901,	00406036601,	00406577162,	00527169801,
00054024425,	00054459525,	00095909016,	00378266001,	00406036605,	00406800315,	00555038102,
00054026424,	00054465025,	00115123101,	00378266101,	00406036701,	00406800330,	00555038202,
00054026425,	00054465029,	00115123201,	00378266201,	00406037601,	00406831501,	00555065802,
00054026525,	00054478425,	00115123213,	00378327201,	00406037605,	00406831562,	00555108201,
00054028325,	00054815524,	00115123301,	00378611201,	00406037701,	00406832001,	00555108301,
00054028425,	00054839424,	00115123313,	00378611301,	00406037705,	00406833001,	00555108401,
00054035244,	00054855324,	00115123401,	00378611401,	00406051201,	00406833062,	00555108501,
00054035250,	00054855411,	00115123413,	00378611701,	00406051205,	00406838001,	00574029301,
00054038663,	00054855424,	00115127701,	00378710301,	00406051262,	00406838062,	00574029401,
00054039063,	00054858224,	00115131601,	00378710401,	00406052201,	00406839001,	00574110516,
00054039268,	00054858324,	00115131701,	00378710501,	00406052262,	00406839062,	00574704512,
00054040441,	00054865024,	00115131713,	00378710601,	00406052301,	00406851501,	00574722406,
00054040444,	00074241514,	00115155801,	00378710701,	00406052362,	00406851562,	00591038501,
00054040450,	00074241614,	00121077216,	00378710801,	00406052710,	00406853001,	00591038705,
00054051741,	00074242614,	00228287811,	00378911916,	00406053201,	00406853062,	00591073701,
00054051744,	00074245202,	00228287911,	00378911998,	00406053205,	00406855550,	00591074901,
00054051750,	00074304113,	00228298111,	00378912116,	00406054034,	00406855605,	00591074905,
00054052341,	00074304153,	00228298150,	00378912198,	00406055201,	00406855830,	00591082001,
00054052363,	00074304313,	00228298211,	00378912216,	00406055262,	00406900076,	00591082401,
00054055125,	00074304353,	00228298311,	00378912298,	00406055401,	00406902576,	00591082501,
00054071025,	00074305413,	00228309111,	00378912398,	00406058201,	00406905076,	00591093201,
00054279525,	00074305453,	00228322911,	00378912416,	00406059301,	00406907576,	00591093301,
00054354563,	00093002401,	00228326306,	00378912498,	00406059401,	00406921230,	00591217201,
00054355344,	00093003101,	00228350106,	00378912598,	00406059501,	00409113403,	00591217205,
00054355563,	00093003201,	00228350211,	00378912698,	00406059601,	00409117830,	00591217401,
00054355663,	00093003301,	00228350311,	00406012301,	00406083012,	00409118069,	00591260501,
00054368663,	00093516101,	00228350411,	00406012305,	00406083015,	00409130431,	00591260505,
00054378563,	00093537365,	00228350711,	00406012310,	00406083024,	00409131230,	00591260901,

¹ Our records contain one patient with the underlying cause code Y86 (“Sequelae of other accidents”) which is accompanied by T96 (“Sequelae of poisoning by drugs, medicaments and biological substances...classifiable to T36-T50”) along with one of the listed T40 multiple cause of death codes. Our records also contain one patient with the underlying cause code X599 (“Exposure to unspecified factor causing other and unspecified injury”) which is accompanied by one of the listed T40 multiple cause of death codes.

² More information about IDC cause of death codes can be found at <https://icd.who.int/browse10/2019/en/#/>

³ Our prescription records begin on January 1, 2009.

00591261201,	00832022600,	42858000201,	49999085790,	58177031304,	60505353901,	63481062270,
00591261205,	00832022700,	42858000210,	50383004316,	58177031404,	60505354001,	63481062370,
00591269301,	00904644461,	42858000301,	50458003305,	58177032004,	60505700102,	63481062375,
00591270801,	00904644561,	42858000401,	50458003405,	58177033004,	60505700202,	63481062385,
00591319872,	00904667840,	42858000501,	50458003505,	58177034004,	60505700302,	63481062770,
00591320201,	10019017844,	42858010201,	50458003605,	58177038004,	60505700402,	63481062870,
00591320205,	10702000801,	42858010250,	50458009105,	58177044504,	60505700602,	63481062970,
00591321254,	10702000901,	42858010301,	50458009205,	58177044604,	60505700702,	63481067470,
00591321272,	10702000950,	42858010401,	50458009305,	58177046104,	60505700802,	63481069370,
00591321372,	10702001801,	42858010450,	50458009405,	58177046204,	60505700902,	63481081220,
00591321472,	10702001850,	42858020101,	50458082002,	58177062004,	60505701002,	63481081260,
00591345301,	10702005601,	42858020201,	50458082004,	58177062011,	60505701102,	63481081420,
00591349401,	10702005650,	42858030101,	50458083002,	58177062104,	60505708002,	63481081460,
00591351101,	10702005701,	42858030125,	50458083004,	58177062504,	60505708102,	63481081520,
00591351201,	10702015016,	42858030201,	50458084002,	58177062511,	60505708202,	63481081560,
00591351301,	10702018901,	42858030250,	50458084004,	58177067704,	60793043001,	63481081660,
00591351401,	13107001901,	42858030301,	50458086001,	58177067904,	60793043020,	63481081760,
00591351501,	13107002001,	42858079901,	50458086101,	58177068104,	60793043120,	63481081860,
00591355101,	13107002101,	42858080101,	50458086201,	58177068304,	60793043301,	63481090770,
00591360072,	13107004401,	42858080201,	50458086301,	58177088603,	60793043320,	63739017710,
00591360272,	13107004405,	42858080301,	50458086401,	58177088657,	60793043401,	63739053210,
00591360372,	13107004501,	42858080401,	51862018501,	59011010010,	60793043701,	63739070410,
00591374001,	13107004601,	42858080501,	51862018601,	59011010020,	60793060301,	63857032211,
00591374101,	13107005501,	42998020301,	51862018701,	59011010025,	60793060501,	63857032306,
00591374201,	13107005601,	42998020302,	51862022701,	59011010310,	60793060601,	63857032311,
00591374301,	13107005701,	43386011801,	51862022801,	59011010320,	60793060701,	63857032411,
00591374401,	13107008801,	43386035101,	51862058501,	59011010325,	60793060801,	63857032511,
00603388721,	13107008901,	43386035201,	52152015802,	59011010510,	60951031070,	63857032611,
00603388728,	13107010701,	43386035301,	52152016502,	59011010520,	60951060270,	63857041011,
00603388732,	13107010801,	43386035701,	52152016511,	59011010525,	60951060285,	63857041211,
00603389021,	23635040801,	43386035801,	52152018702,	59011010710,	60951065270,	64376064301,
00603389028,	23635041201,	43386043001,	52152021402,	59011010720,	60951065370,	64376064801,
00603389032,	23635041601,	43386043201,	52152021502,	59011010725,	60951065570,	64376064805,
00603389121,	23635043201,	43386049301,	52152040802,	59011020110,	60951065870,	64376064901,
00603389128,	23635058110,	43386092060,	52152040902,	59011026010,	60951065970,	64376064905,
00603389132,	23635058210,	46987032211,	52152041002,	59011026125,	60951070070,	64720022410,
00603389721,	24486020016,	46987032311,	52152041102,	59011026210,	60951071270,	64720022510,
00603441521,	24510005860,	46987032411,	52544003960,	59011026310,	60951079470,	64720022610,
00603441621,	24510011010,	46987032511,	53014054867,	59011027160,	60951079570,	64950035450,
00603497821,	24510011510,	46987032611,	53746010901,	59011027260,	60951079670,	64950090110,
00603498221,	24510014010,	46987041011,	53746010905,	59011027360,	60951079770,	65162004710,
00603498228,	27808003501,	46987041211,	53746011001,	59011027460,	62037052401,	65162004750,
00603499021,	27808003502,	47781019601,	53746011005,	59011027560,	62175049064,	65162004810,
00603499028,	27808003503,	47781019605,	53746014501,	59011041010,	62542030116,	65162004910,
00603499121,	27808003601,	47781022901,	53746014601,	59011041020,	62542030117,	65162004950,
00603499128,	27808003602,	47781022905,	53746020301,	59011041510,	62559015116,	65162005010,
00603499221,	27808003603,	47781023001,	53746020305,	59011042010,	62559015304,	65162005110,
00603499228,	27808003701,	47781023005,	53746020401,	59011042020,	62559016701,	65162011510,
00603499321,	27808008201,	47781023063,	53746020501,	59011043010,	63304020301,	65162011550,
00603499621,	27808008202,	47781026301,	53746020601,	59011044010,	63304020302,	65162020710,
00603499721,	27808008602,	47781026305,	54868051001,	59011044020,	63304040001,	66479054110,
00603499821,	27808011401,	47781026405,	54868285403,	59011044410,	63304040101,	66479054125,
00603499828,	27808011501,	47781026501,	54868381302,	59011045101,	63304045001,	66479054210,
00641605425,	27808011601,	47781026505,	54868471000,	59011045201,	63304045101,	66479054310,
00641607001,	31722019205,	47781042347,	55253007230,	59011045210,	63304045201,	66479056012,
00641615125,	31722019301,	47781042447,	55253007530,	59011045401,	63304068301,	66479058010,
00713070489,	31722019401,	47781042647,	57664012688,	59011045410,	63304068401,	66479058025,
00781570301,	31722091701,	49884013601,	57664015513,	59011045810,	63304075801,	66479058110,
00781572601,	31722091801,	49884013701,	57664015588,	59011046010,	63459054128,	66479058210,
00781578501,	31722094101,	49884013801,	57664017013,	59011048010,	63459054228,	66479058350,
00781710955,	31722094601,	49884019701,	57664017088,	59011048020,	63481012170,	66591093141,
00781711155,	31722094901,	49884023533,	57664017688,	59011081510,	63481043470,	66689002316,
00781711255,	35356009030,	49884023537,	57664018788,	59011083010,	63481043670,	66689002416,
00781711355,	35356044430,	49884067001,	57664022388,	59011086010,	63481043870,	66689002530,
00781711455,	35356083960,	49884076178,	57664022488,	60429051601,	63481044070,	66689003216,
00781724055,	42799021701,	49884076278,	57664037088,	60429051701,	63481055370,	66689040316,
00781724155,	42806000501,	49884076378,	57664037188,	60429051901,	63481057170,	66689071116,
00781724255,	42806000601,	49884076478,	57664046708,	60429052101,	63481061270,	67767012018,
00781724355,	42806000701,	49884083301,	58177004104,	60432045516,	63481061370,	67767012118,
00781724455,	42806000801,	49884083401,	58177004111,	60505353701,	63481061770,	67767012218,
00832022500,	42858000101,	49884083801,	58177031004,	60505353801,	63481062170,	67767012318,

67877011601,	68084042301,	68308014510,	68382079401,	68462019301,	68462080101,	71930001912,
68084004801,	68084047201,	68308040547,	68382079601,	68462020201,	68774016101,	71930004512,
68084018401,	68115057100,	68308084001,	68382079701,	68462020301,	68774016201,	71930004712
68084018501,	68308010801,	68308084101,	68382090301,	68462020401,	68774016301,	
68084035401,	68308011101,	68308084301,	68382090401,	68462034737,	68774016401,	
68084035501,	68308011201,	68308084501,	68382090501,	68462034924,	69344021311,	
68084040401,	68308014501,	68382079301,	68382090601,	68462080001,	69865024502,	

For allegations of the number of patients who overdosed and died associated with each pharmacy, we additionally require that the patient filled a prescription for one of the above listed NDC codes at the given pharmacy at any time since 2009.

For the allegations in the table after paragraph 67, we define a death associated with any prescription opioid as a patient who died of an opioid-related overdose after filling at least one prescription for at least one of the above listed NDC codes in Massachusetts. For allegations of deaths associated with individual companies (*e.g.*, Mallinckrodt), we also require that the patient filled at least one prescription made by that manufacturer. We list the NDC codes we use for each manufacturer:

Mallinckrodt:

00406012301,	00406036601,	00406052301,	00406059501,	00406575501,	00406839001,	00406907576,
00406012305,	00406036605,	00406052362,	00406059601,	00406577101,	00406839062,	00406921230,
00406012310,	00406036701,	00406052710,	00406083012,	00406577162,	00406851501,	23635040801,
00406012362,	00406037601,	00406053201,	00406083015,	00406800315,	00406851562,	23635041201,
00406012401,	00406037605,	00406053205,	00406083024,	00406800330,	00406853001,	23635041601,
00406012405,	00406037701,	00406054034,	00406324301,	00406831501,	00406853062,	23635043201,
00406012410,	00406037705,	00406055201,	00406324401,	00406831562,	00406855550,	23635058110,
00406012501,	00406051201,	00406055262,	00406324901,	00406832001,	00406855605,	23635058210
00406012505,	00406051205,	00406055401,	00406330801,	00406833001,	00406855830,	
00406036501,	00406051262,	00406058201,	00406331201,	00406833062,	00406900076,	
00406036505,	00406052201,	00406059301,	00406331601,	00406838001,	00406902576,	
00406036562,	00406052262,	00406059401,	00406345434,	00406838062,	00406905076,	

Endo:

00603388721,	00603498221,	49884013601,	49884083801,	60951079670,	63481062270,	63481081520,
00603388728,	00603498228,	49884013701,	60951031070,	60951079770,	63481062370,	63481081560,
00603388732,	00603499021,	49884013801,	60951060270,	63481012170,	63481062375,	63481081660,
00603389021,	00603499028,	49884019701,	60951060285,	63481043470,	63481062385,	63481081760,
00603389028,	00603499121,	49884023533,	60951065270,	63481043670,	63481062770,	63481081860,
00603389032,	00603499128,	49884023537,	60951065370,	63481043870,	63481062870,	63481090770,
00603389121,	00603499221,	49884067001,	60951065570,	63481044070,	63481062970,	64376064301,
00603389128,	00603499228,	49884076178,	60951065870,	63481055370,	63481067470,	64376064801,
00603389132,	00603499321,	49884076278,	60951065970,	63481057170,	63481069370,	64376064805,
00603389721,	00603499621,	49884076378,	60951070070,	63481061270,	63481081220,	64376064901,
00603441521,	00603499721,	49884076478,	60951071270,	63481061370,	63481081260,	64376064905
00603441621,	00603499821,	49884083301,	60951079470,	63481061770,	63481081420,	
00603497821,	00603499828,	49884083401,	60951079570,	63481062170,	63481081460,	

Teva and Allergan:

00093002401,	00093690145,	00228350211,	00555108501,	00591217401,	00591321372,	00591374201,
00093003101,	00093690245,	00228350311,	00591038501,	00591260501,	00591321472,	00591374301,
00093003201,	00093690345,	00228350411,	00591038705,	00591260505,	00591345301,	00591374401,
00093003301,	00228287811,	00228350711,	00591073701,	00591260901,	00591351101,	52544003960,
00093516101,	00228287911,	00228427011,	00591074901,	00591261201,	00591351201,	62037052401,
00093537365,	00228298111,	00228427111,	00591074905,	00591261205,	00591351301,	63459054128,
00093573101,	00228298150,	00228431111,	00591082001,	00591269301,	00591351401,	63459054228
00093573201,	00228298211,	00555038102,	00591082401,	00591270801,	00591351501,	
00093573301,	00228298311,	00555038202,	00591082501,	00591319872,	00591360072,	
00093573401,	00228309111,	00555065802,	00591093201,	00591320201,	00591360272,	
00093586101,	00228322911,	00555108201,	00591093301,	00591320205,	00591360372,	
00093586201,	00228326306,	00555108301,	00591217201,	00591321254,	00591374001,	
00093690045,	00228350106,	00555108401,	00591217205,	00591321272,	00591374101,	

Purdue and Rhodes:

42858000101, 42858010450, 42858080201, 59011010510, 59011026310, 59011042020, 59011045810,
42858000201, 42858020101, 42858080301, 59011010520, 59011027160, 59011043010, 59011046010,
42858000210, 42858020201, 42858080401, 59011010525, 59011027260, 59011044010, 59011048010,
42858000301, 42858030101, 42858080501, 59011010710, 59011027360, 59011044020, 59011048020,
42858000401, 42858030125, 59011010010, 59011010720, 59011027460, 59011044410, 59011081510,
42858000501, 42858030201, 59011010020, 59011010725, 59011027560, 59011045101, 59011083010,
42858010201, 42858030250, 59011010025, 59011020110, 59011041010, 59011045201, 59011086010
42858010250, 42858030301, 59011010310, 59011026010, 59011041020, 59011045210,
42858010301, 42858079901, 59011010320, 59011026125, 59011041510, 59011045401,
42858010401, 42858080101, 59011010325, 59011026210, 59011042010, 59011045410,

Johnson & Johnson:

50458003305, 50458003605, 50458009305, 50458082004, 50458084002, 50458086101, 50458086301,
50458003405, 50458009105, 50458009405, 50458083002, 50458084004, 50458086201, 50458086401
50458003505, 50458009205, 50458082002, 50458083004, 50458086001,