TREND IN DRUG-OVERDOSE DEATHS AFTER RECENT REFORMS IN THE STATE OF NEW JERSEY

Highlights

- The prescription of opioids decreased by 24% between 2013 and 2019 state-wide.
- From 2017 to 2019, the trend in drug-overdose deaths appeared to begin to level off, decreasing for the first time in 2019.
- All counties appeared to have experienced a marginal decline or signs of experiencing a downward trend in death counts after 2017, except for Essex County.
- With a few exceptions, counties that decreased opioid prescriptions by more than 20% had a bending or downward-trending drug-overdose death toll curve.

On November 1, 2011, the Centers for Disease Control and Prevention (CDC) announced that deaths resulting from prescription opioid painkillers had reached epidemic proportions [1]. The epidemic has since claimed several precious lives. As of 2018, nearly 70% of all overdose deaths in the US involved opioids [2].

Since the CDC's call to fight the epidemic, the various states have taken several necessary steps to combat the canker. The Centers for Disease Control and Prevention (CDC) has identified "promising strategies" that states may implement [3]. One of those is the use of prescription drug monitoring programs (PDMPs) to monitor and inform decision-making regarding opioid prescription. PDMPs are state registries that keep records of how controlled dangerous substances (CDS) such as opioids are dispensed. Several states require practitioners to consult PDMPs to review patient experience with controlled substances before issuing a CDS prescription. It is the expectation that such history will inform and influence prescriber behavior about whether, and how CDS scripts should be issued to patients. Another strategy is to expand

the administration of naloxone - an overdose reversal medication - to help keep persons who overdose on CDS alive. Practitioners are encouraged to follow the CDC's opioid prescription guidelines for chronic pain. States are also encouraged to expand access to substance abuse treatment venues, including Medication-Assisted Treatment (MAT) for opioid addiction.

State Legislation

The state of New Jersey implemented most, if not all, of the above recommendations. However, the data suggested that overdose deaths continued to rise in the state. In February 2017, the state made headlines when it passed what many described as an aggressive law regulating opioid prescriptions. At the time, it was the most stringent legislation limiting the order of controlled substances [4]. Under the law, "a practitioner shall not issue an initial prescription for an opioid drug which is a prescription drug as defined in section 2 of P.L.2003, c.280 (C.45:14-41) in a quantity exceeding a five-day supply for the treatment of acute pain. Any prescription for acute pain pursuant to this subsection shall be for the lowest effective dose of immediate-release opioid drug." By “initial”, the law implied a prescription for a patient who had never been issued a prescription for the drug or its pharmaceutical equivalent. The phrase "lowest effective overdose" refers to a quantity below 50 MMEs per day and no more than required for the expected duration of the pain. The law, which took effect beginning in May 2017, exempts cancer patients, patients undergoing substance abuse treatment, and terminally ill patients in hospice care. Before the enactment of the law, it was not uncommon for practitioners to write 30-day or even 90-day opioid scripts for patients irrespective of the level of pain. Arizona and North Carolina have since implemented similar five-day supply legislations. Other states have since passed more aggressive laws limiting initial prescriptions to 3-4 days (see Figure 1). When necessary, an additional 30-day supply may be issued to a patient after following specific protocols. Before making such a prescription, a qualified prescriber must make thorough documentation of a patient's medical history, including a patient's experience with controlled and non-controlled substances by accessing relevant information from the state's prescription drug monitoring database. The prescriber must also conduct and document the results of a physical examination of the patient. The prescriber would also make a pain treatment plan for the patient.

The law also clearly defines a qualified prescriber. The law stipulates that a "practitioner" is "a medical doctor, doctor of osteopathy, dentist, optometrist, podiatrist, physician assistant, certified nurse-midwife, or advanced practice nurse, acting within the scope of practice of their professional license pursuant to Title 45 of the Revised Statutes."

The law further mandates health care providers and insurance companies to provide unlimited benefits for inpatient and outpatient treatment of substance use disorder at state-approved in-network facilities for 180 days (when determined to be medically necessary) without requiring pre-payment of medical expenses during those days or preauthorization.

The Law as a Tool

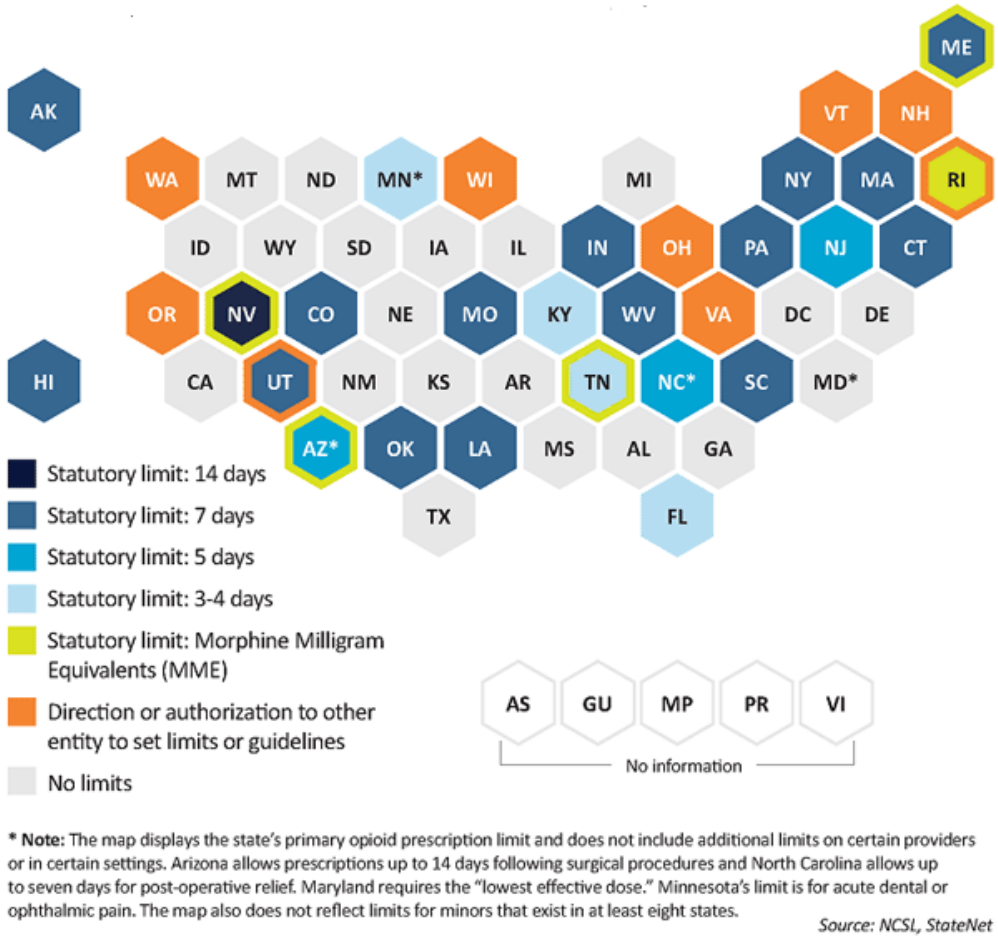
Previous research has linked continued use/abuse of opioids to the number of days for which opioids are prescribed for use. The CDC estimated that the probability of continued use of opioids after 1 year was approximately 6% for a patient with a 5-day supply compared to 35% for one with a 30-day supply (see Figure 2). These probabilities reduce to 2.5% and 20% in 3 years for 5-day and 30-day supplies, respectively.

As a result, many considered the law as a tool to moderate the flow of prescription opioids to patients, especially for those who do not need them. The state of Massachusetts became the first state in the country to enact legislation limiting the prescription of opioids. Since then, several states have followed suit, implementing laws with varying limitations and requirements for prescribing opioids. As of October 2018, 33 states had passed laws placing various restrictions and providing guidance on how opioids should be prescribed (see Figure 1) [5].

Goal of Analysis

We sought to make an early assessment of the potential impact of New Jersey's recent efforts on drug-overdose deaths in the state, especially after two and a half years of the so-called "aggressive" law.

Figure 1. Laws setting limits on certain opioid prescriptions, by state

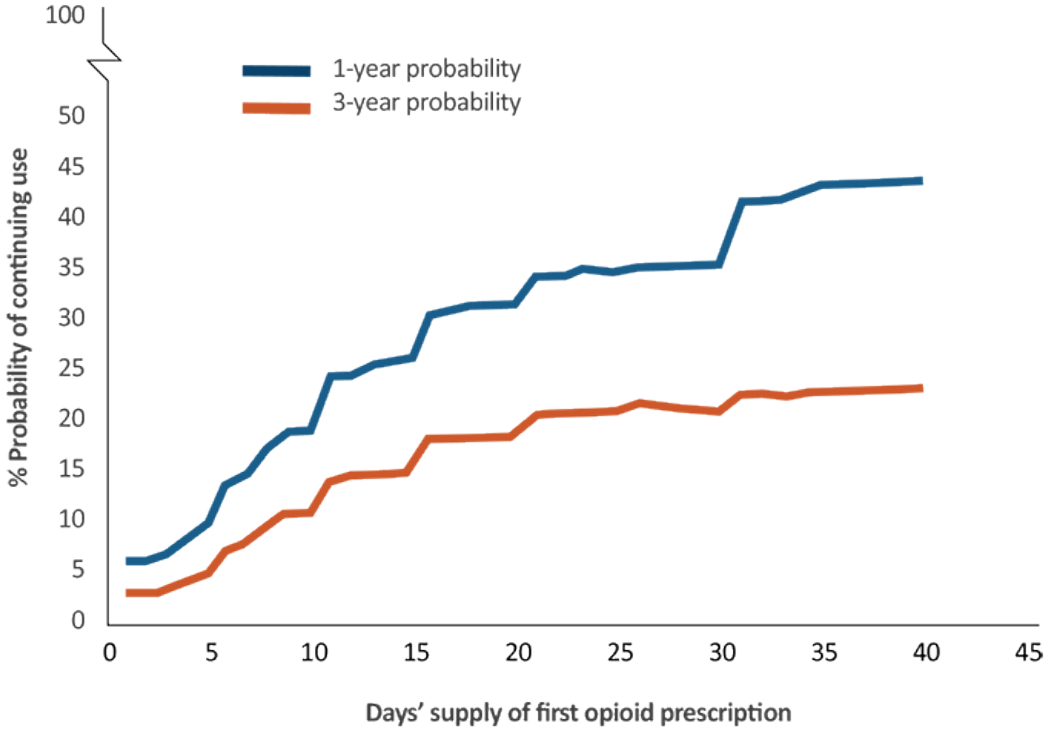


Data. We obtained data from the Office of the New Jersey Coordinator of Addiction Response and Enforcement Strategies (NJCARES), an office within the Office of the Attorney General of the state of New Jersey dedicated to fighting the opioid epidemic [6].

NJCARES makes available almost real-time data on state-wide opioid-related deaths, naloxone administration, and opioid prescriptions. Data on confirmed and suspected overdose deaths are available for the period 2012 to 2019. Data on opioid prescriptions and naloxone administration are available from 2013 and 2014, respectively.

Analysis. This study is descriptive. We analyzed trends and patterns at state and county levels using line plots. The three primary outcomes were drug overdose death counts, opioids prescribed, and naloxone administered.

Figure 1. Relationship between the number of days of opioid supply of first opioid and probability of continued use after 1 and 3 years



Source: Centers for Disease Control and Prevention, 2017

Results

Figure 3. Overdose deaths and changes in opioid prescriptions written, 2012-2019

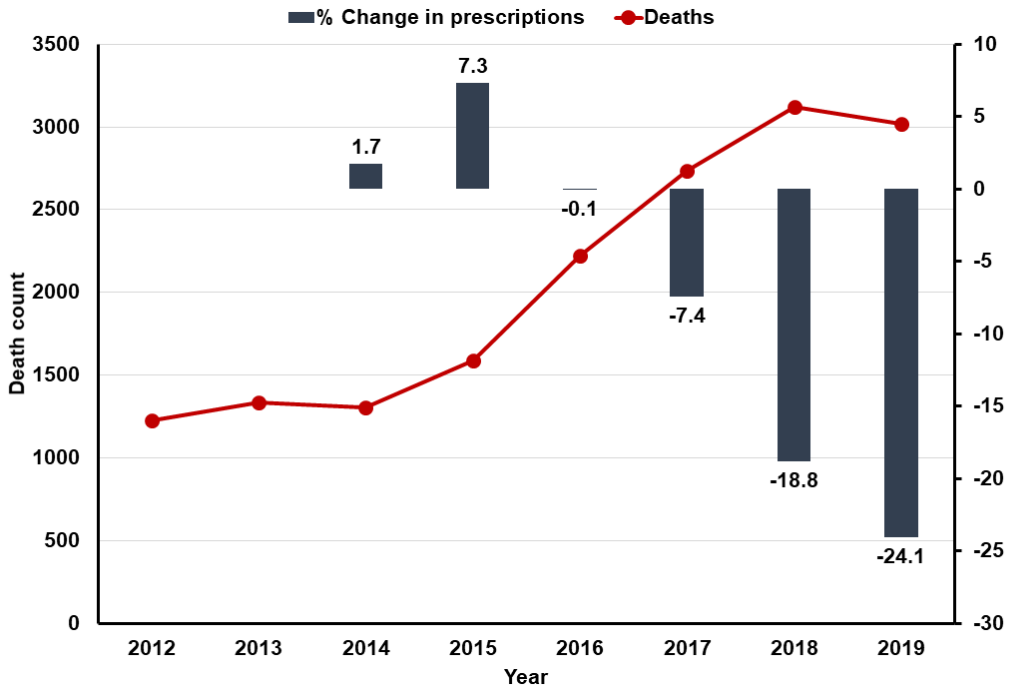


Figure 4. Naloxone administration counts

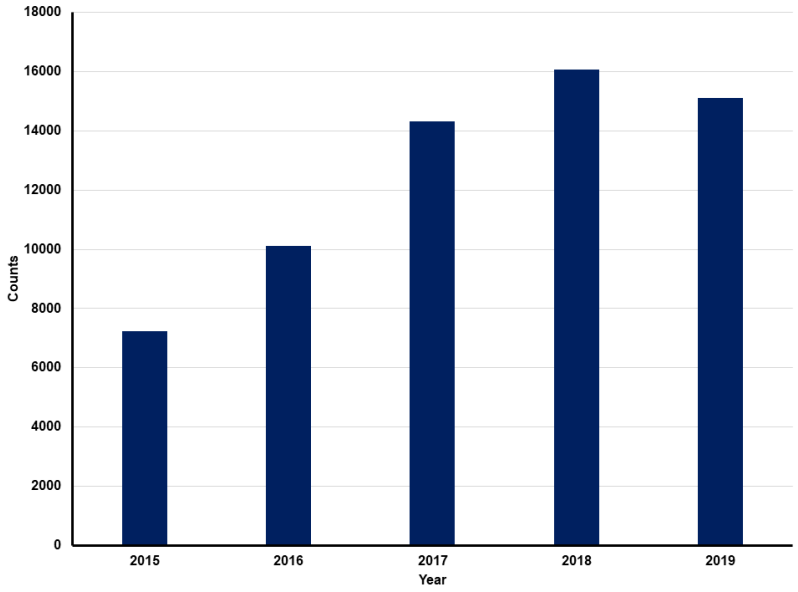
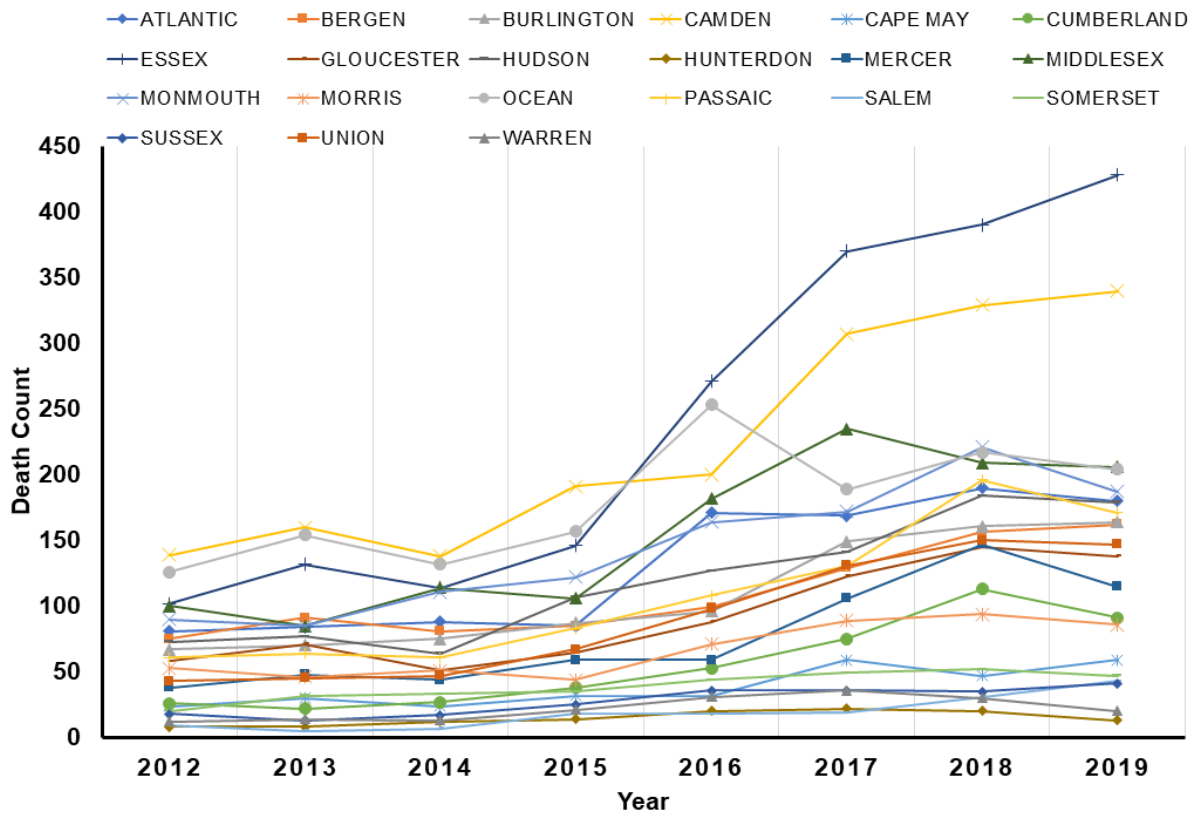


Figure 5. Overdose deaths by county, 2012-2019



Authors' analysis of data from NJCARES data.

Discussion and Conclusion

The CDC established a link between the number of days for which opioids are prescribed for first use by patients and continued use of opioids and other dangerous drugs (e.g., heroin) in the absence of pain. As a result, limiting the supply to a few days is expected to reduce the use and abuse of such controlled substance. In this analysis, we assessed the relationship between the number of opioid scripts written and overdose death counts. We found that, before the passage of New Jersey's stringent opioid law, deaths due to drug overdose were on the rise. However, approximately two and a half years after the implementation of the law, there was a significant

decline in the number of opioid prescription scripts written by practitioners, and what appeared to be a “leveling off” of the previously increasing trend in overdose deaths.

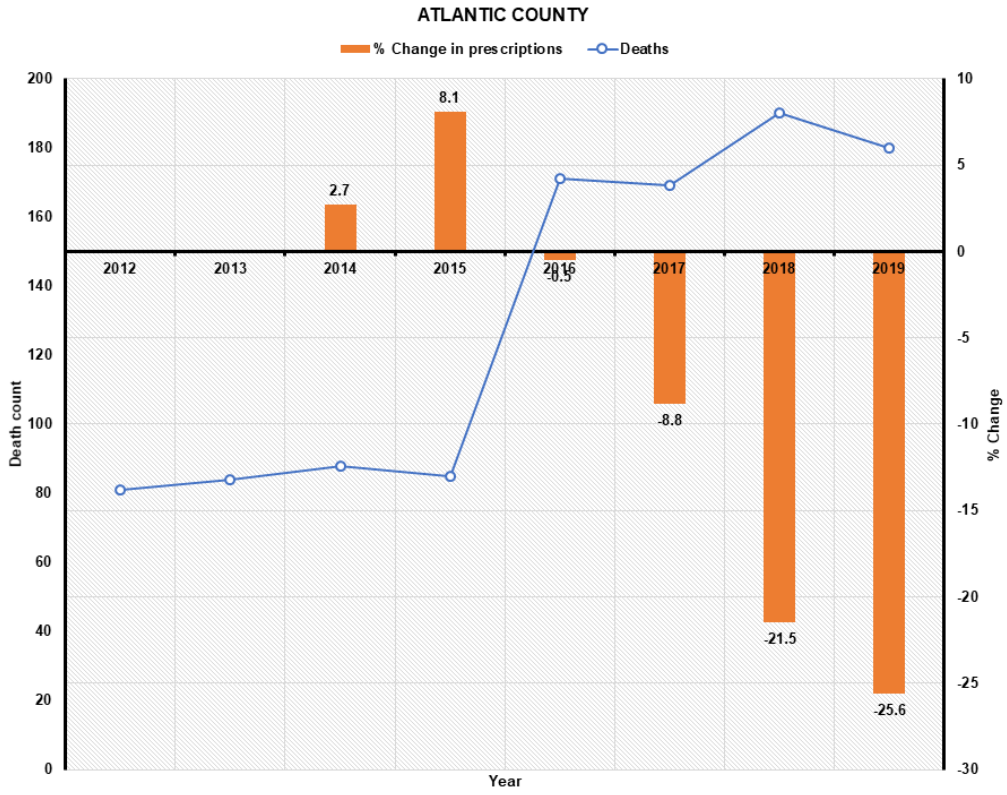
Overall, opioid prescriptions decreased by 24.1% between 2013 and 2019. For the first time since 2014, drug-overdose deaths dropped for the first time by approximately 3% in 2019. Analyzing by county, we found that counties that had massive decreases in the number of scripts issued experienced a leveling, and in some cases, mild declines in overdose death counts. However, Essex County, which only decreased prescriptions by only 8%, continued to experience an increasing trend in drug-overdose deaths.

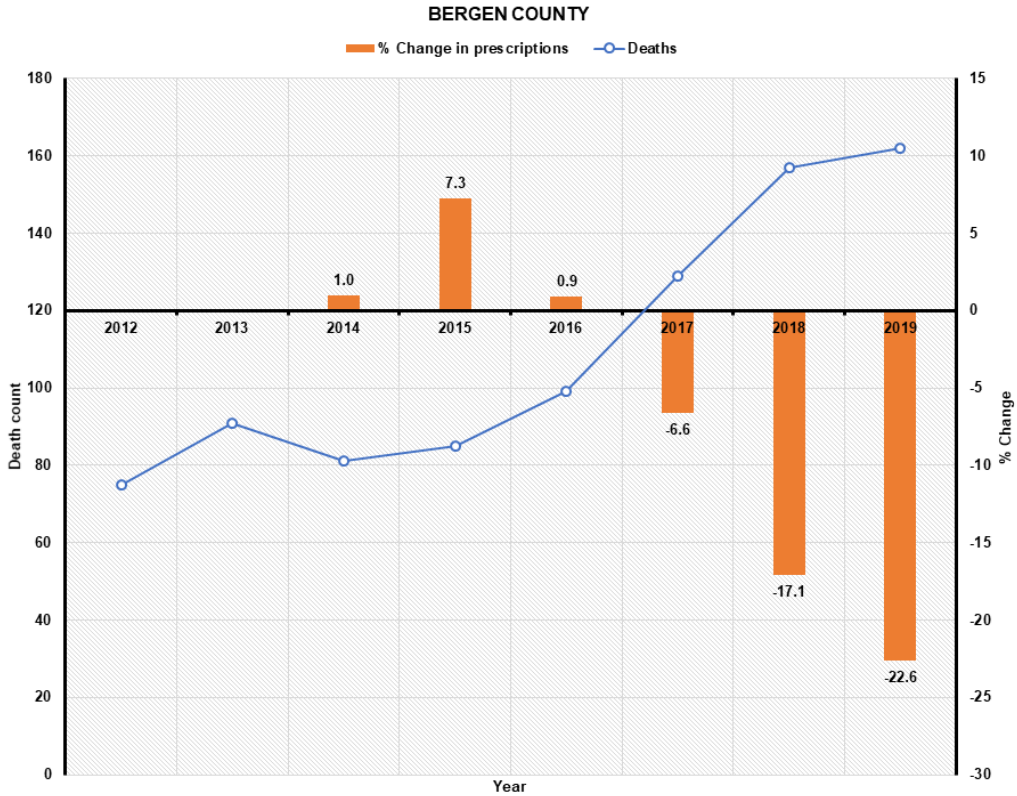
We did not systematically investigate whether what appeared to be a declining trend in overdose deaths is the impact of the "aggressive" law. However, we find it is reasonable to acknowledge its contribution to the solution. More effort is required to eradicate this menace. All stakeholders must continue to put in the required effort for success to be attained.

References

1. Centers for Disease Control and Prevention, "Prescription painkiller overdoses at epidemic levels," http://web.archive.org/web/20170711052446/https://www.cdc.gov/media/releases/2011/p1101_flu_pain_killer_overdose.html. November 1, 2011
2. National Institute on Drug Abuse. New Jersey: Opioid-Involved Deaths and Related Harms. April 2020. https://www.drugabuse.gov
3. Centers for Disease Control and Prevention. Promising State Strategies. Available at https://www.cdc.gov/drugoverdose/policy/index.html. Accessed 5/10/2020.
4. The State of New Jersey. https://www.njleg.state.nj.us/2016/Bills/PL17/28_.HTM
5. National Conference of State Legislatures. https://www.ncsl.org/
6. Office of the Attorney General. State of New Jersey. https://www.njcares.gov/prescriptions-2019.html

Appendix


ATLANTIC COUNTY
% Change in prescriptions
Deaths
Death count
% Change
Year
2012
2013
2014
2015
2016
2017
2018
2019
2.7
8.1
-0.5
-8.8
-21.5
-25.6


BERGEN COUNTY
% Change in prescriptions
Deaths
Death count
% Change
Year
2012
2013
2014
2015
2016
2017
2018
2019
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7.3
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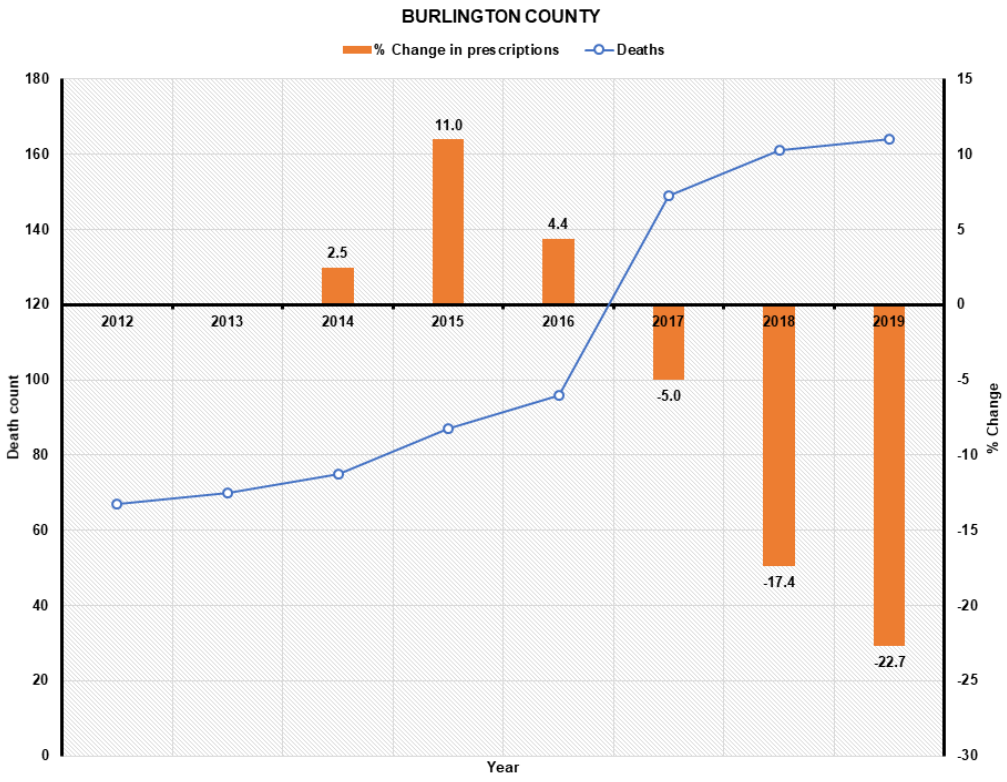
-6.6
-17.1
-22.6


BURLINGTON COUNTY
% Change in prescriptions
Deaths
Death count
% Change
Year
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2013
2014
2015
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2017
2018
2019
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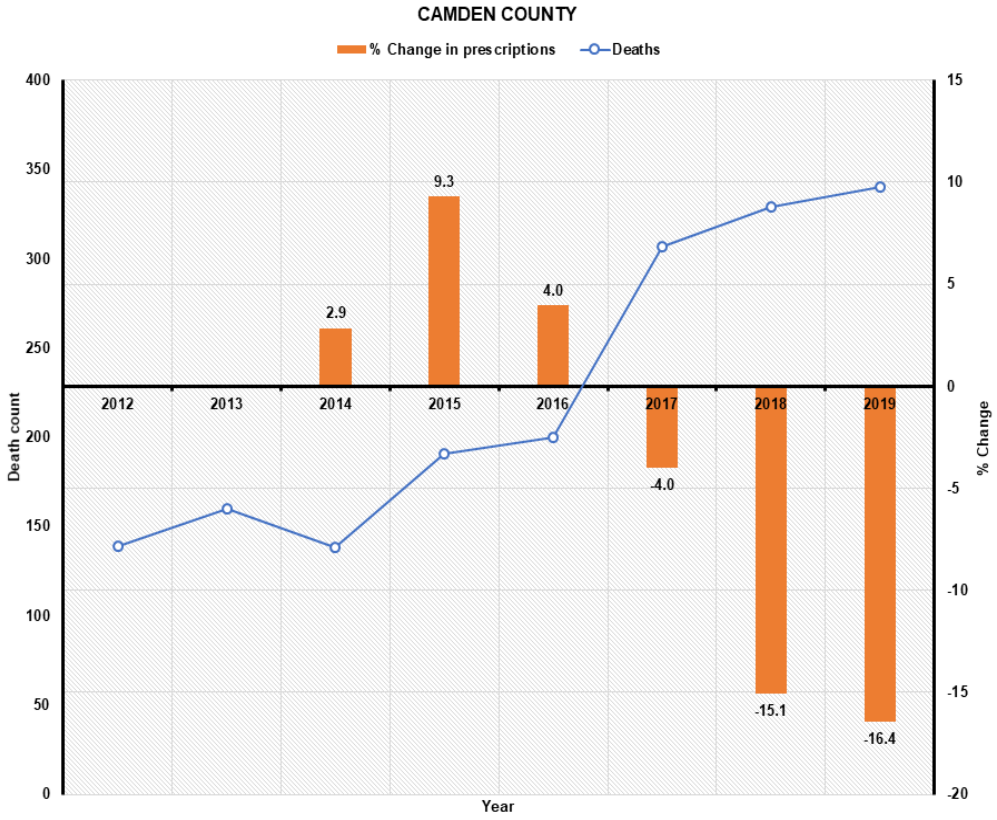
11.0
4.4
-5.0
-17.4
-22.7


CAMDEN COUNTY
% Change in prescriptions
Deaths
Death count
% Change
Year
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2013
2014
2015
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2018
2019
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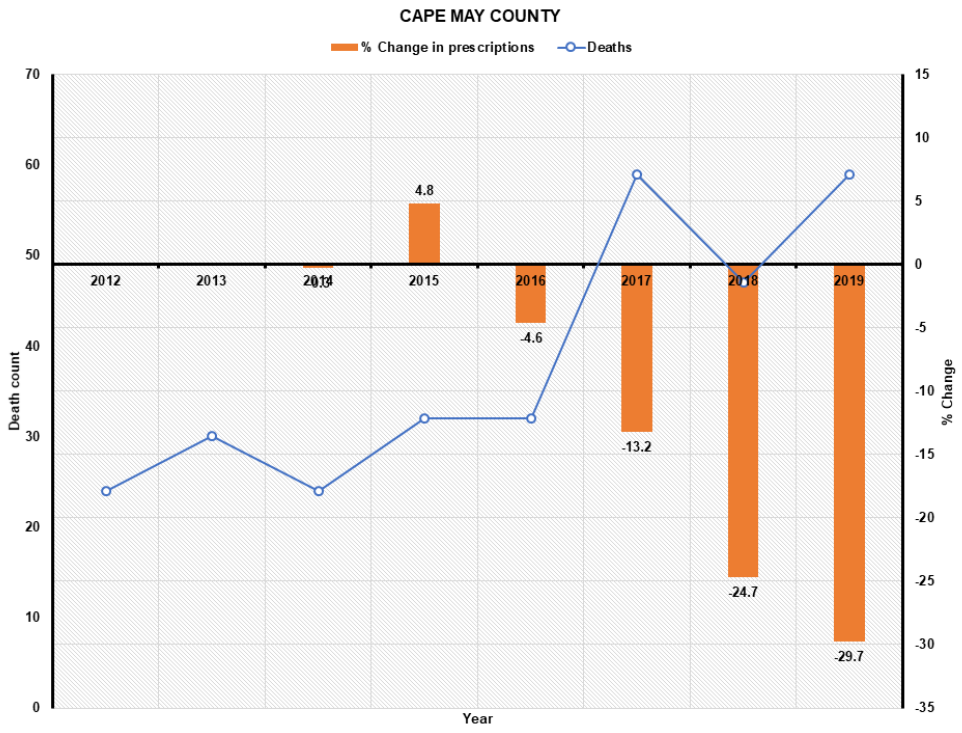
-15.1
-16.4


CAPE MAY COUNTY
% Change in prescriptions
Deaths
Death count
% Change
Year
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2013
2014
2015
2016
2017
2018
2019
4.8
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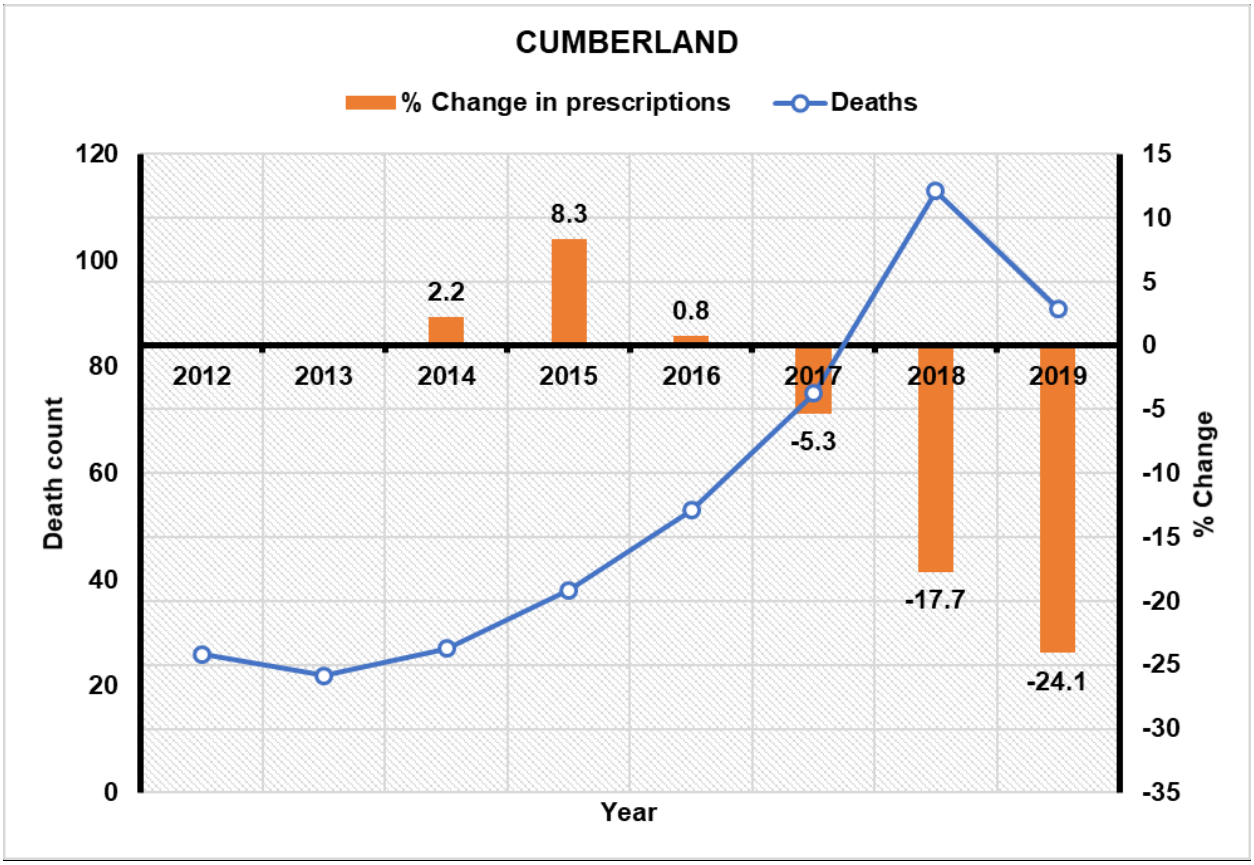
-13.2
-24.7
-29.7


CUMBERLAND
% Change in prescriptions
Deaths
Death count
% Change
Year
2012
2013
2014
2015
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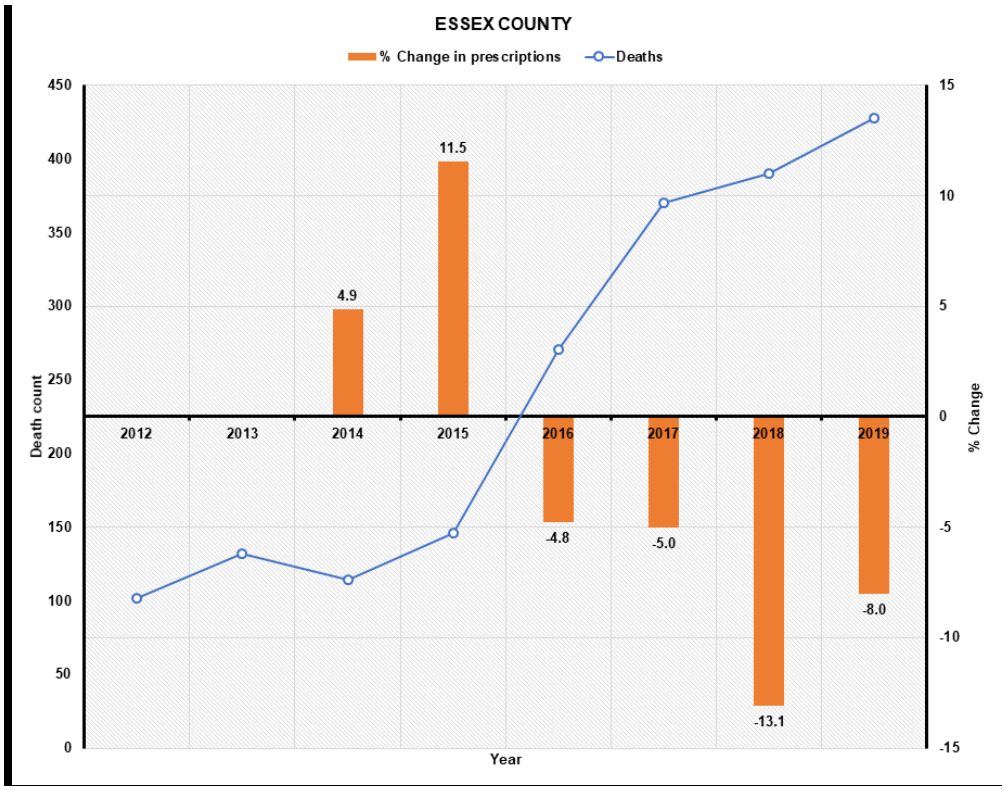
2019
2.2
8.3
0.8
-5.3
-17.7
-24.1


ESSEX COUNTY
% Change in prescriptions
Deaths
Death count
% Change
Year
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2019
4.9
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-4.8
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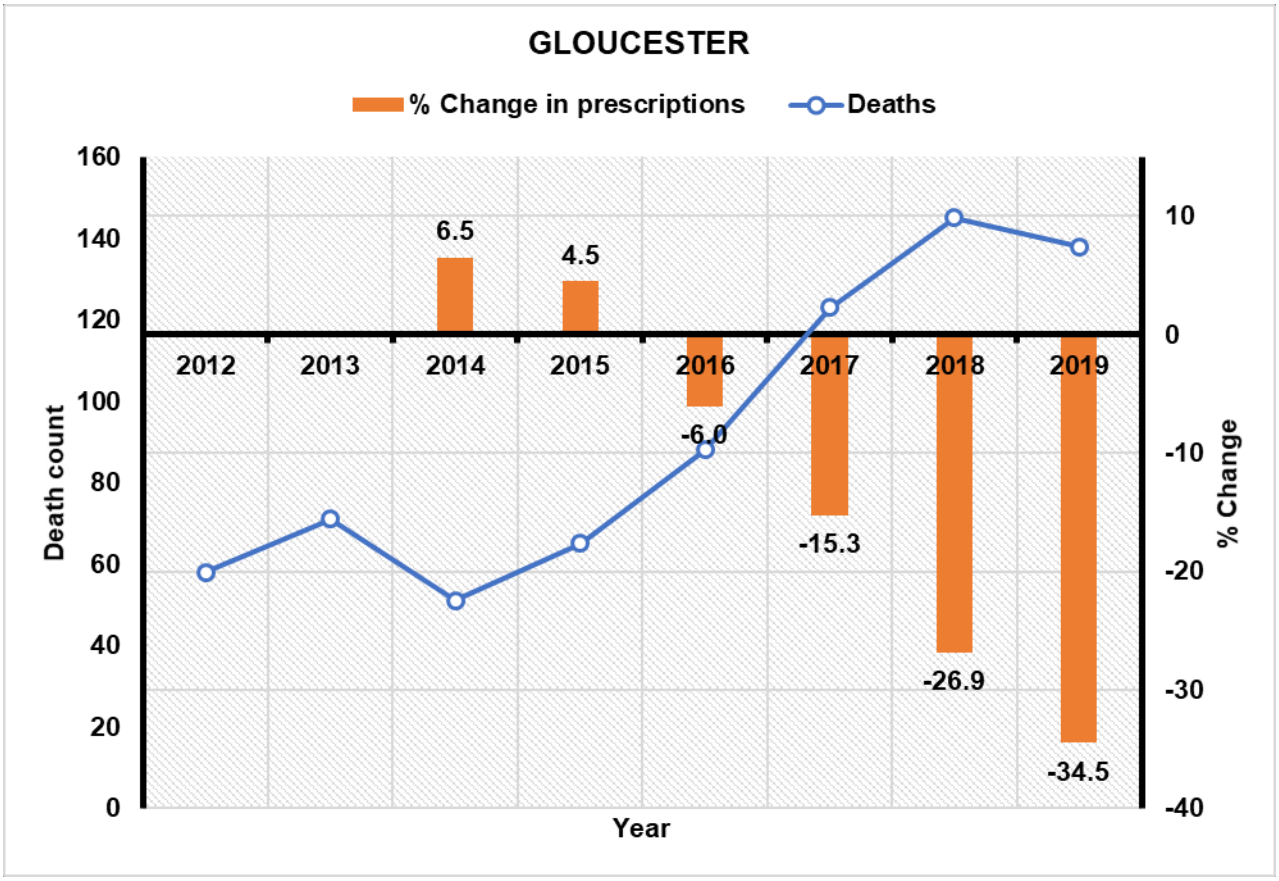
-8.0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% Change in prescriptions
Deaths
Death count
% Change
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2015
2016
2017
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2019
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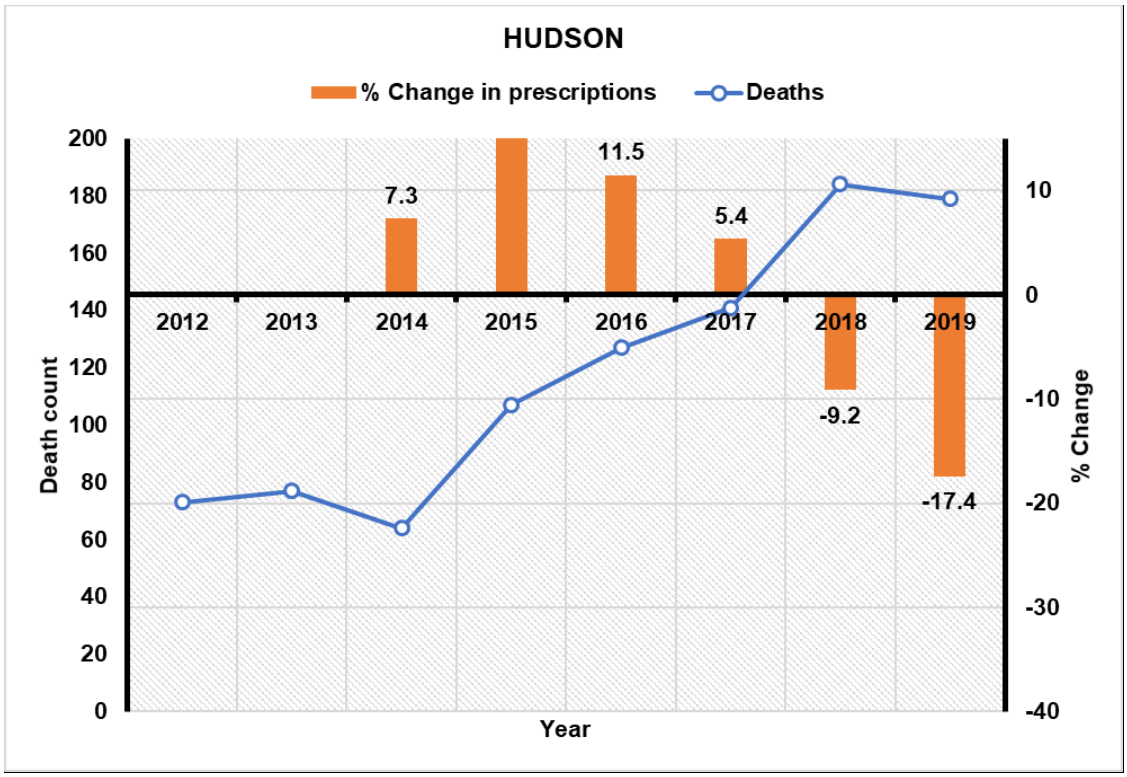
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% Change in prescriptions
Deaths
Death count
% Change
Year
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180
160
140
120
100
80
60
40
20
0
10
0
-10
-20
-30
-40
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2019
7.3
11.5
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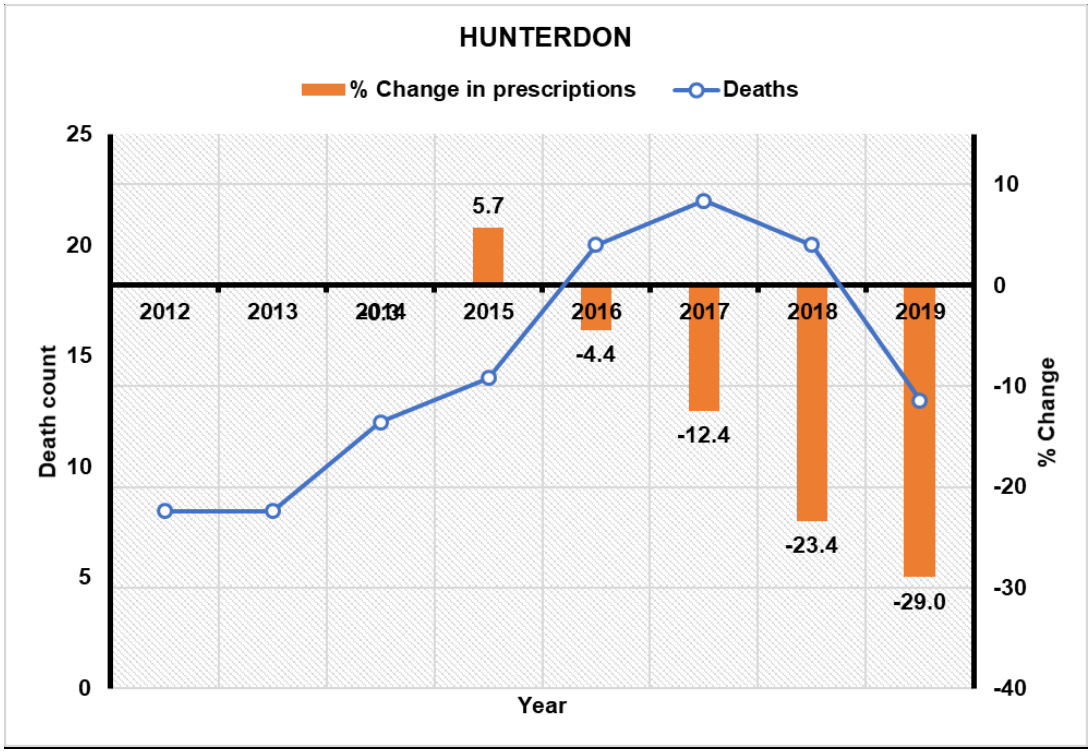
-17.4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% Change in prescriptions
Deaths
Death count
% Change
Year
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20
15
10
5
0
10
0
-10
-20
-30
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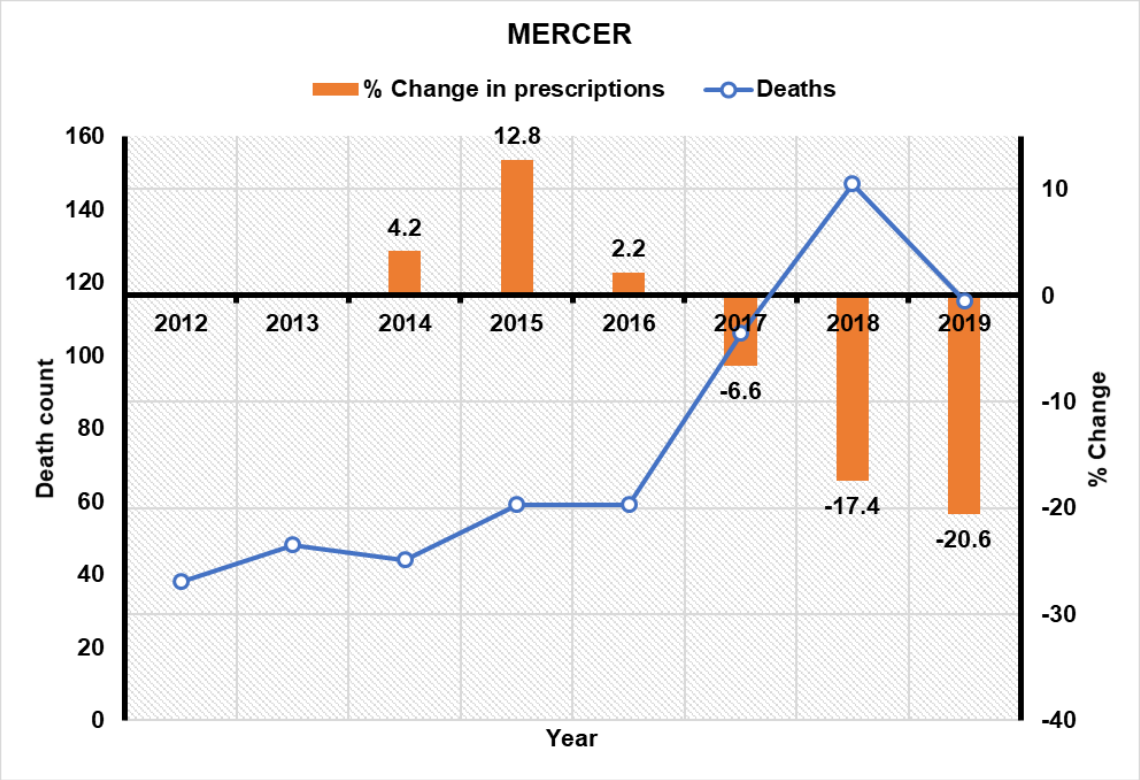
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Deaths
Death count
% Change
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100
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40
20
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-20
-30
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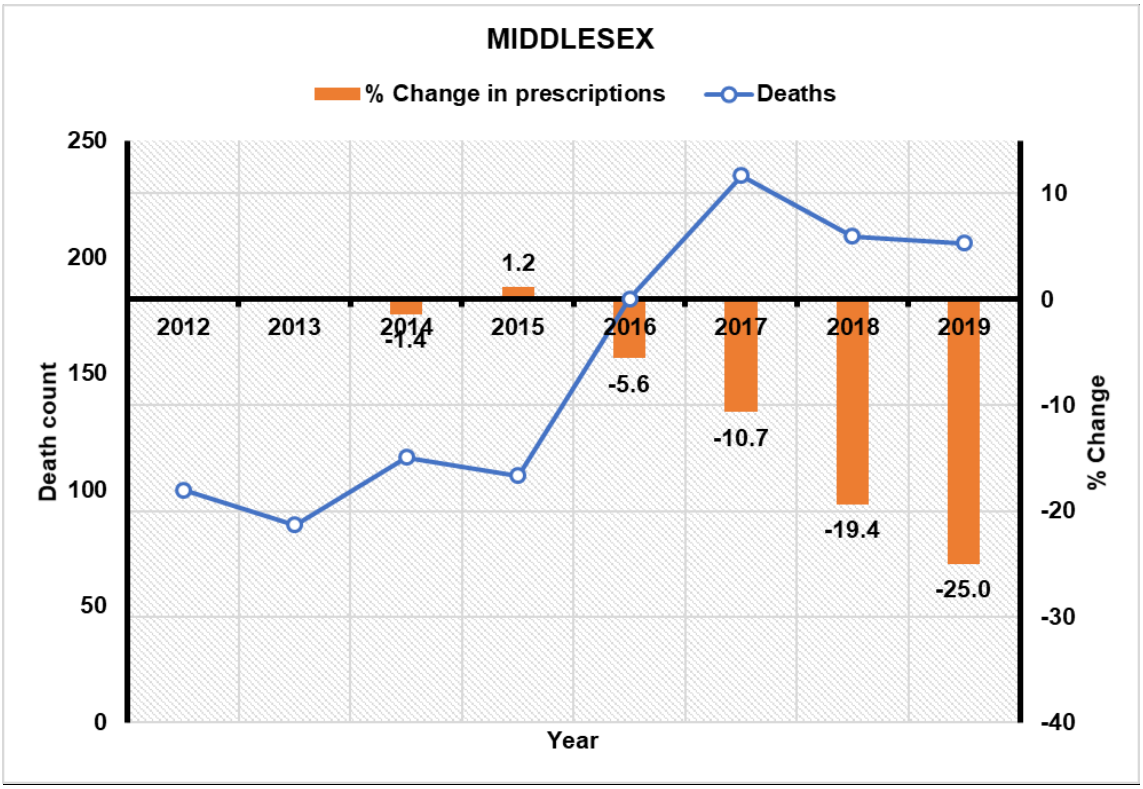
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Death count
% Change
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-30
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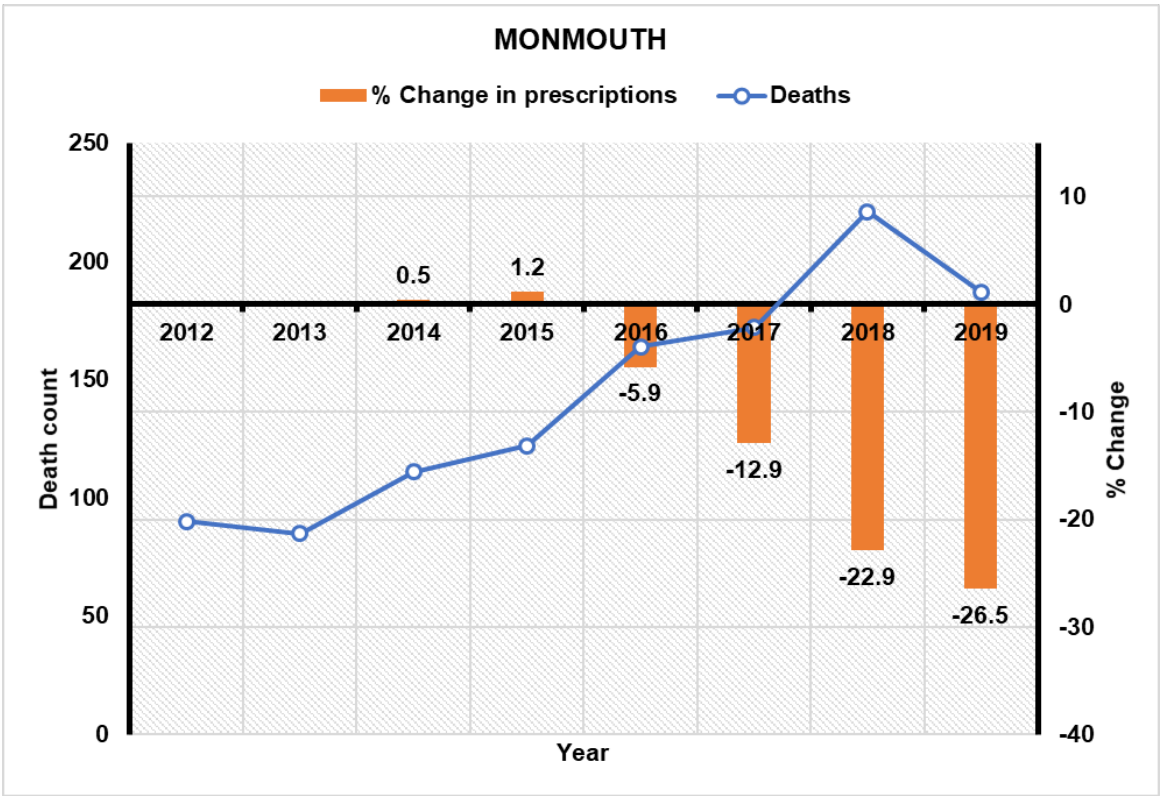
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Death count
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% Change
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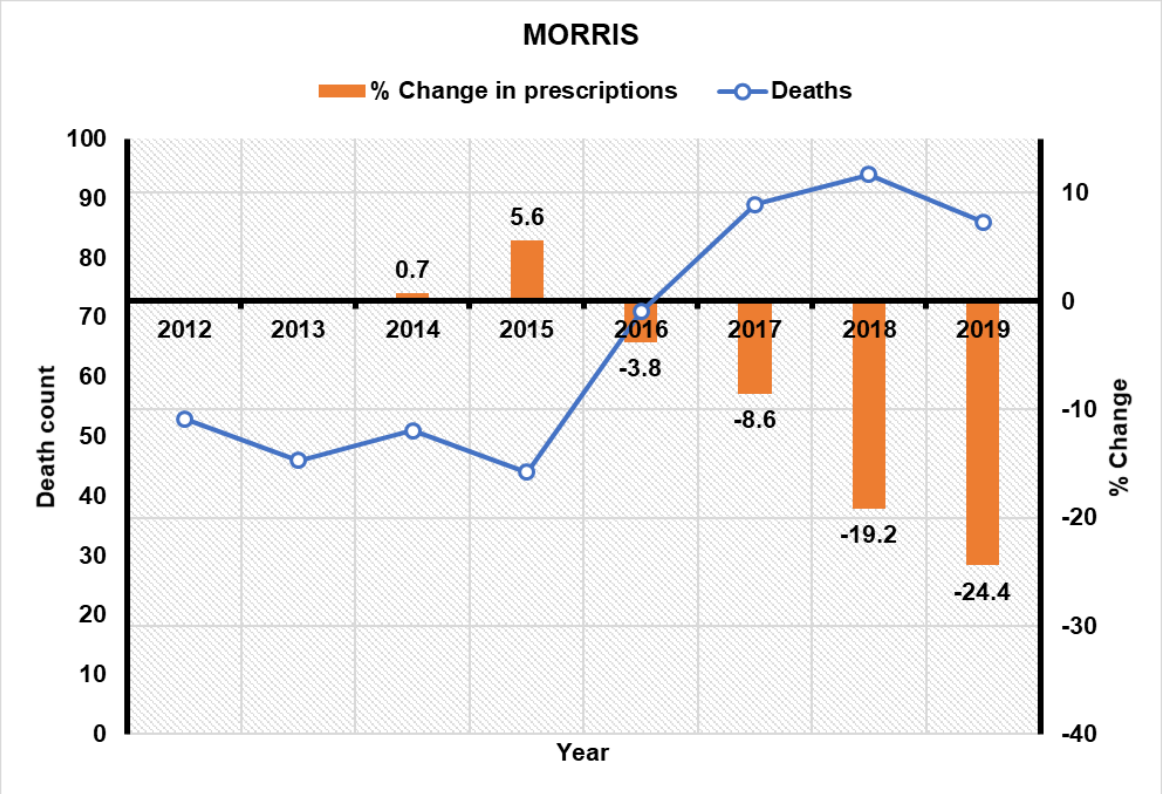
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-10
-20
-30
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% Change
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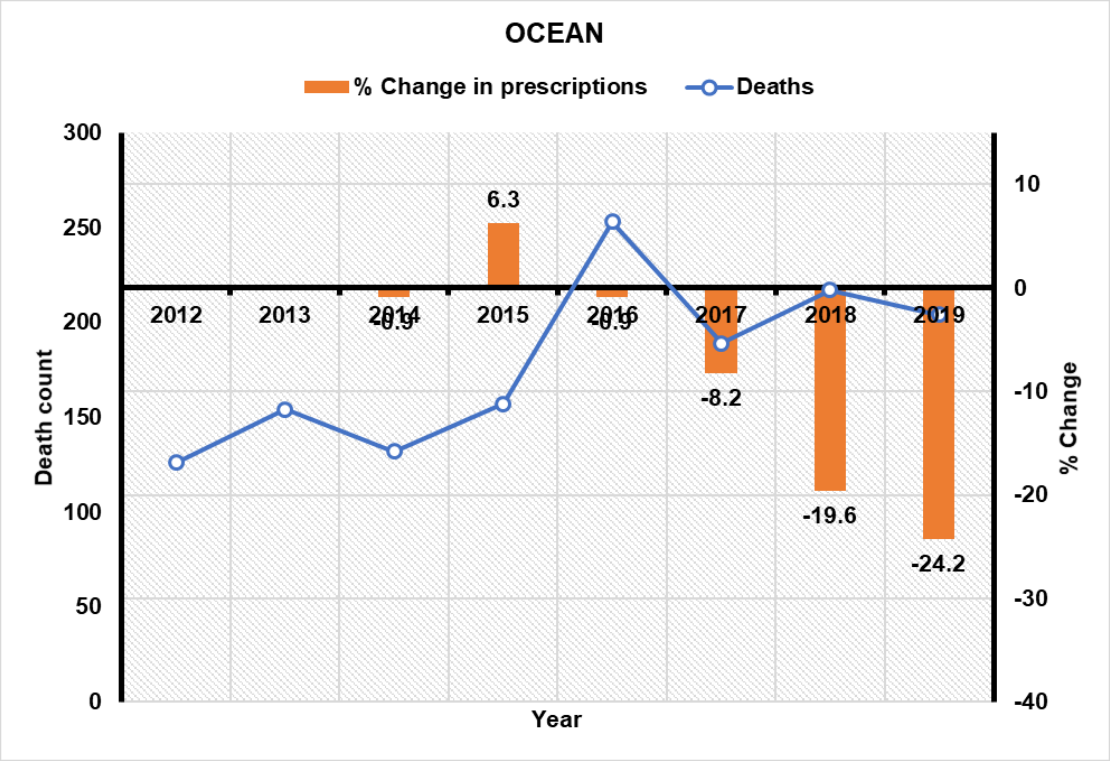
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Death count
% Change
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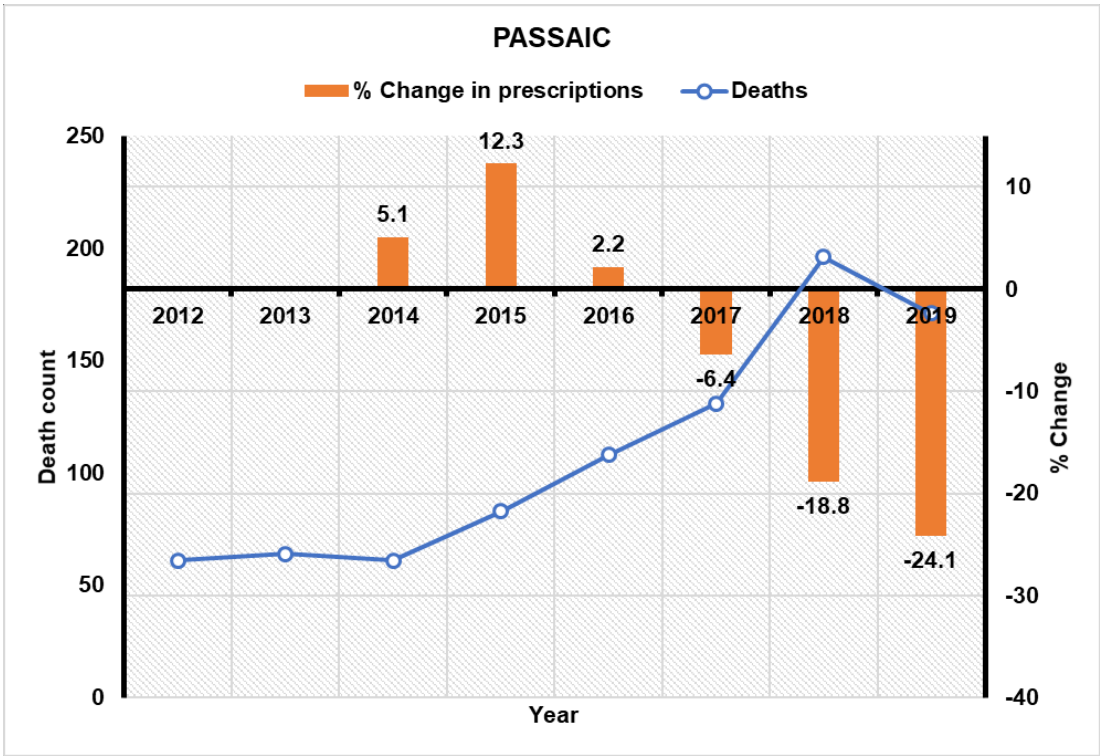
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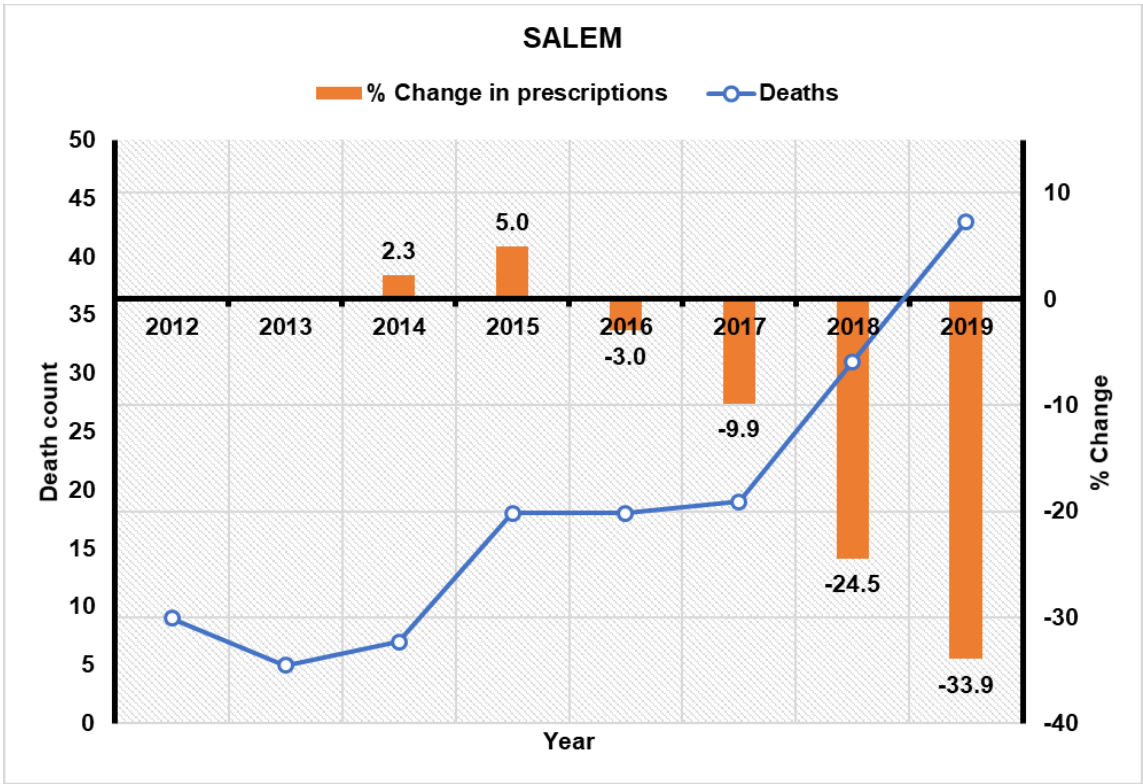
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Deaths
Death count
% Change
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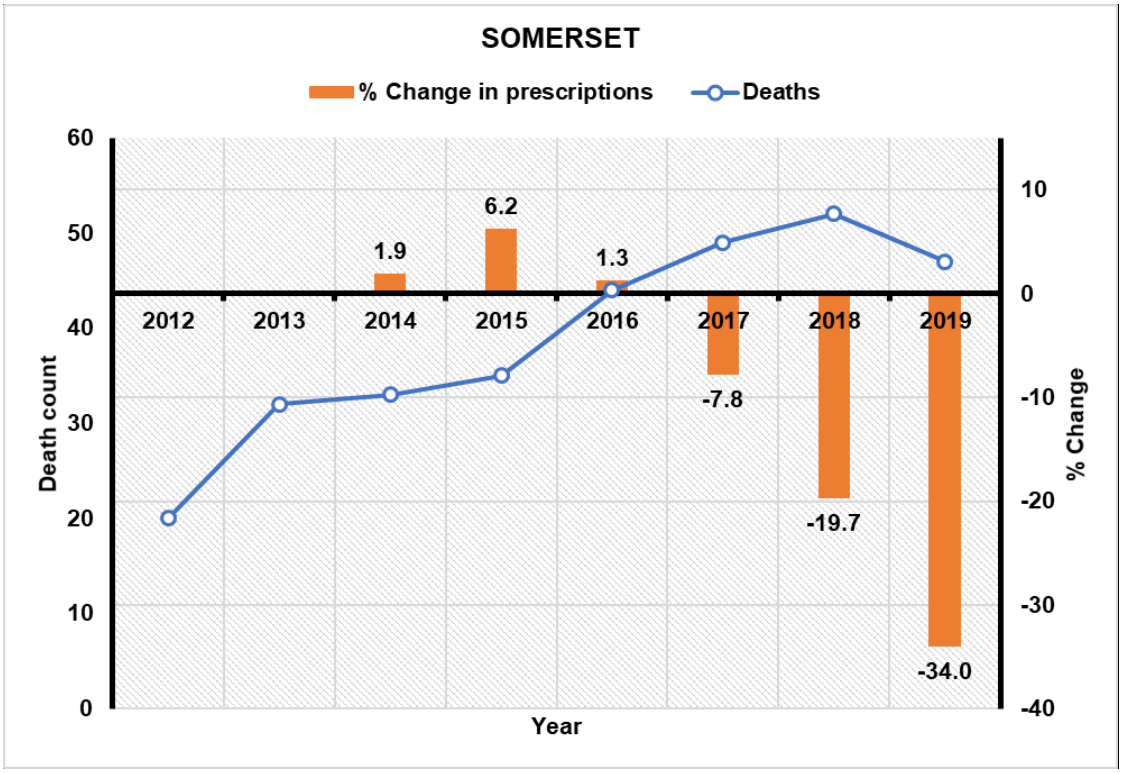
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Deaths
Death count
% Change
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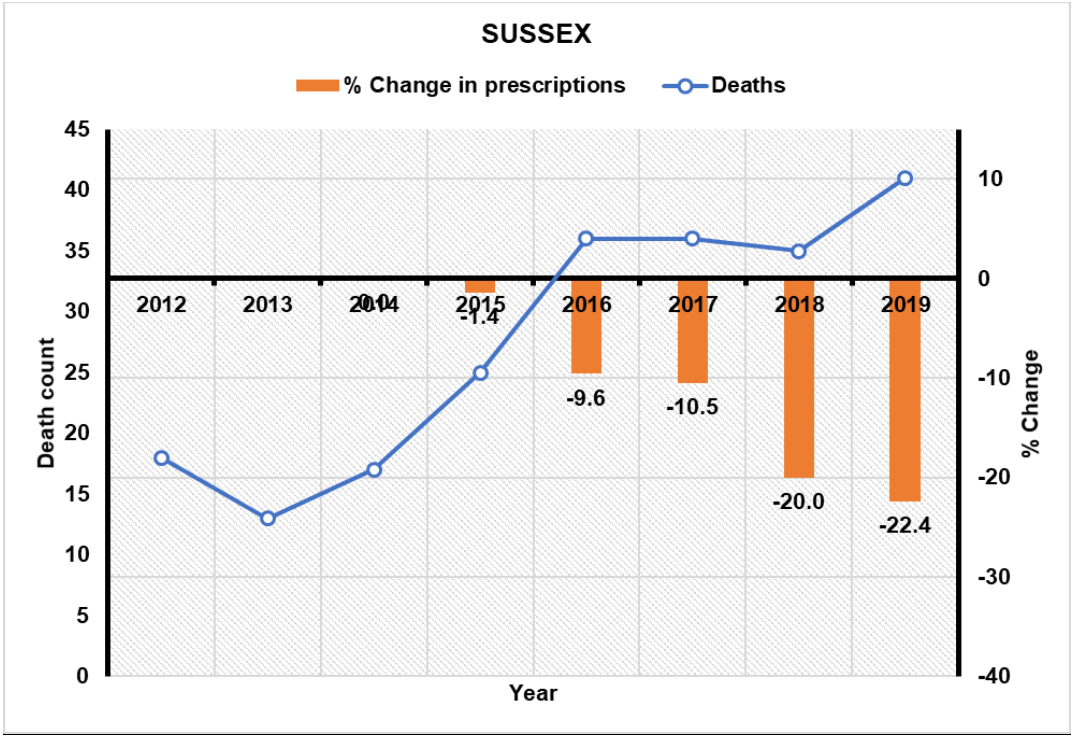
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Deaths
Death count
% Change
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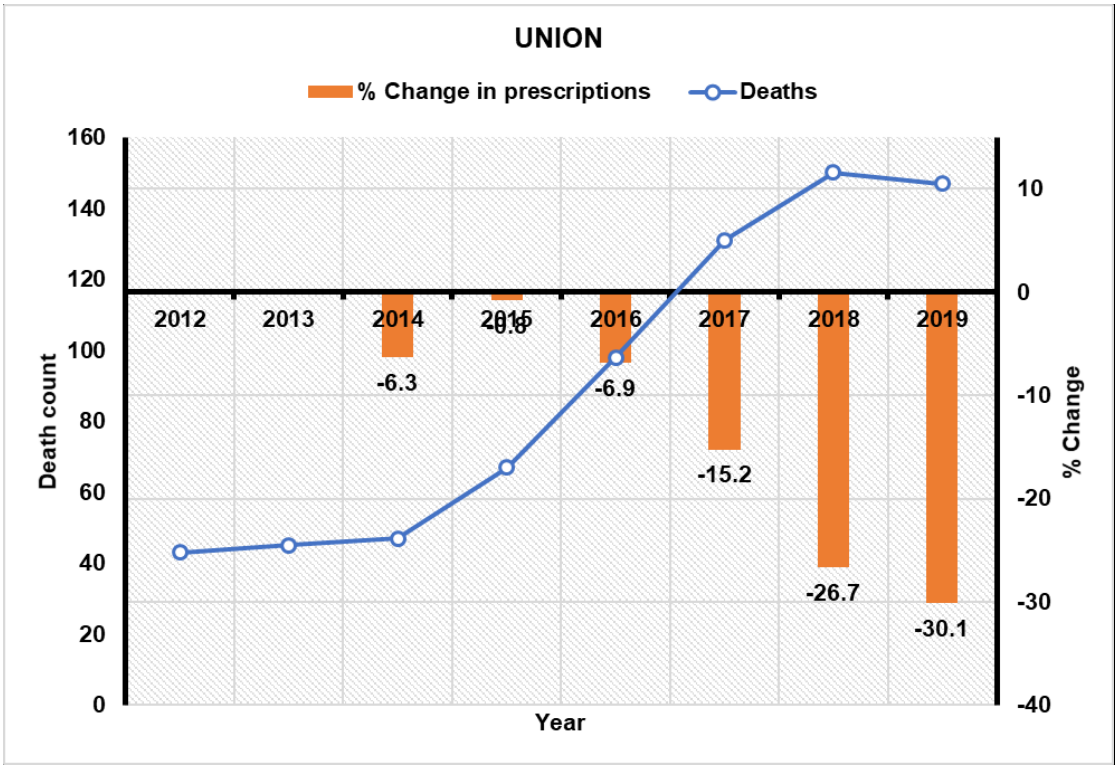
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Death count
% Change
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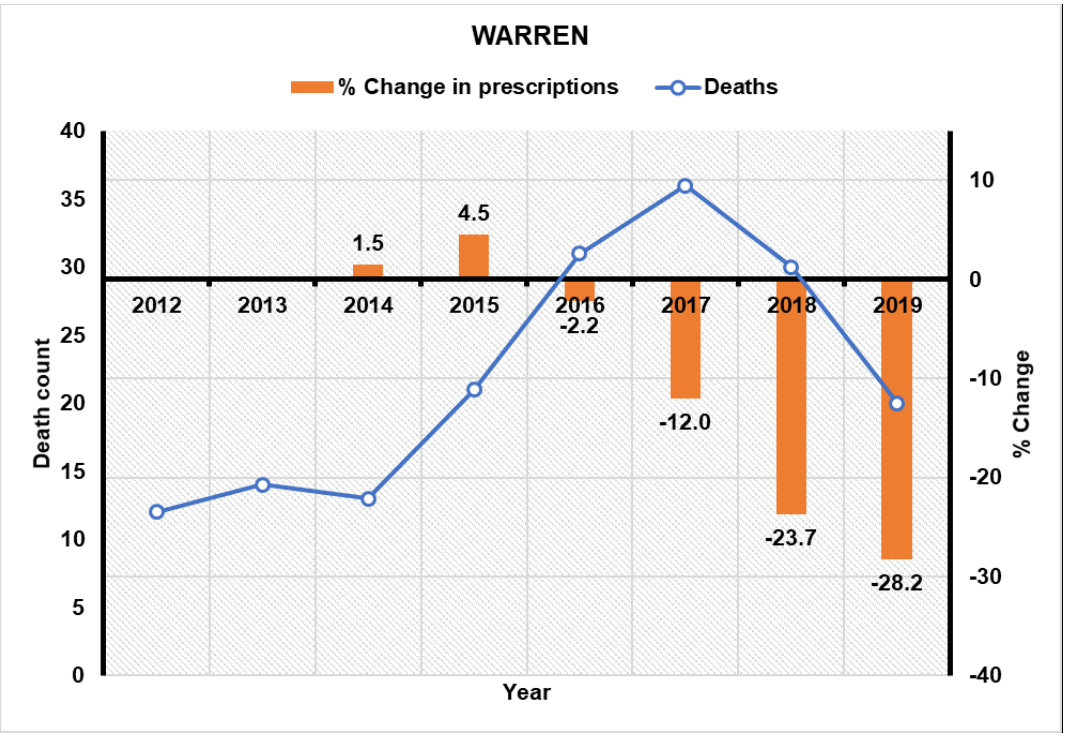
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% Change in prescriptions
Deaths
Death count
% Change
Year
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30
25
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10
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0
-10
-20
-30
-40
2012
2013
2014
2015
2016
2017
2018
2019
1.5
4.5
-2.2
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