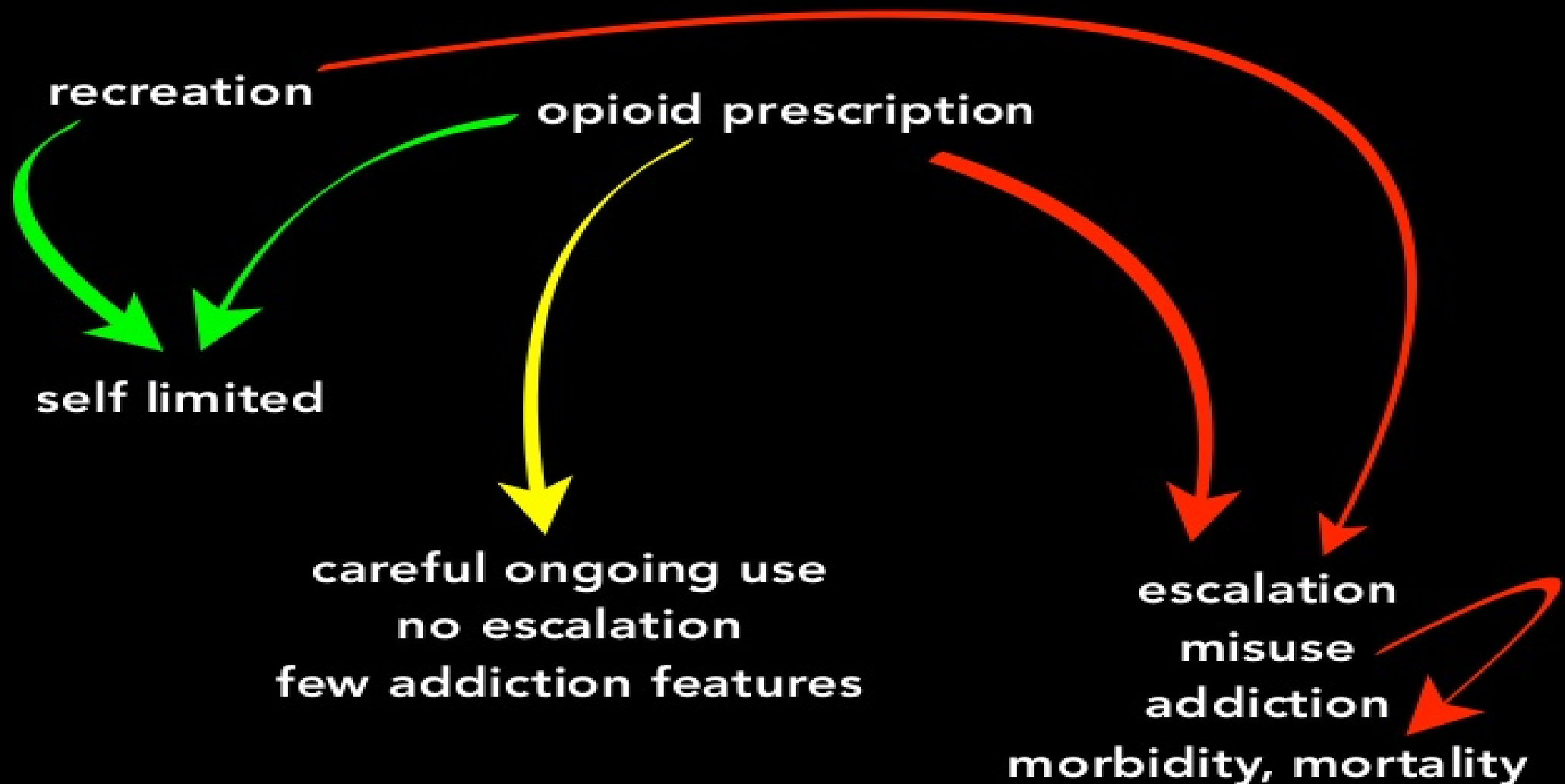


**Analgesic Administration for Patients
with Renal Colic in the Emergency
Department Before and After
Implementation of an Opioid Reduction
Initiative**

Sergey Motov, MD
Jefferson Drapkin, BS
Mahlaqa Butt, BA
Andrew Thorson, MD
Antonios Likourezos, MPH
Peter Flom, PhD
John Marshall, MD

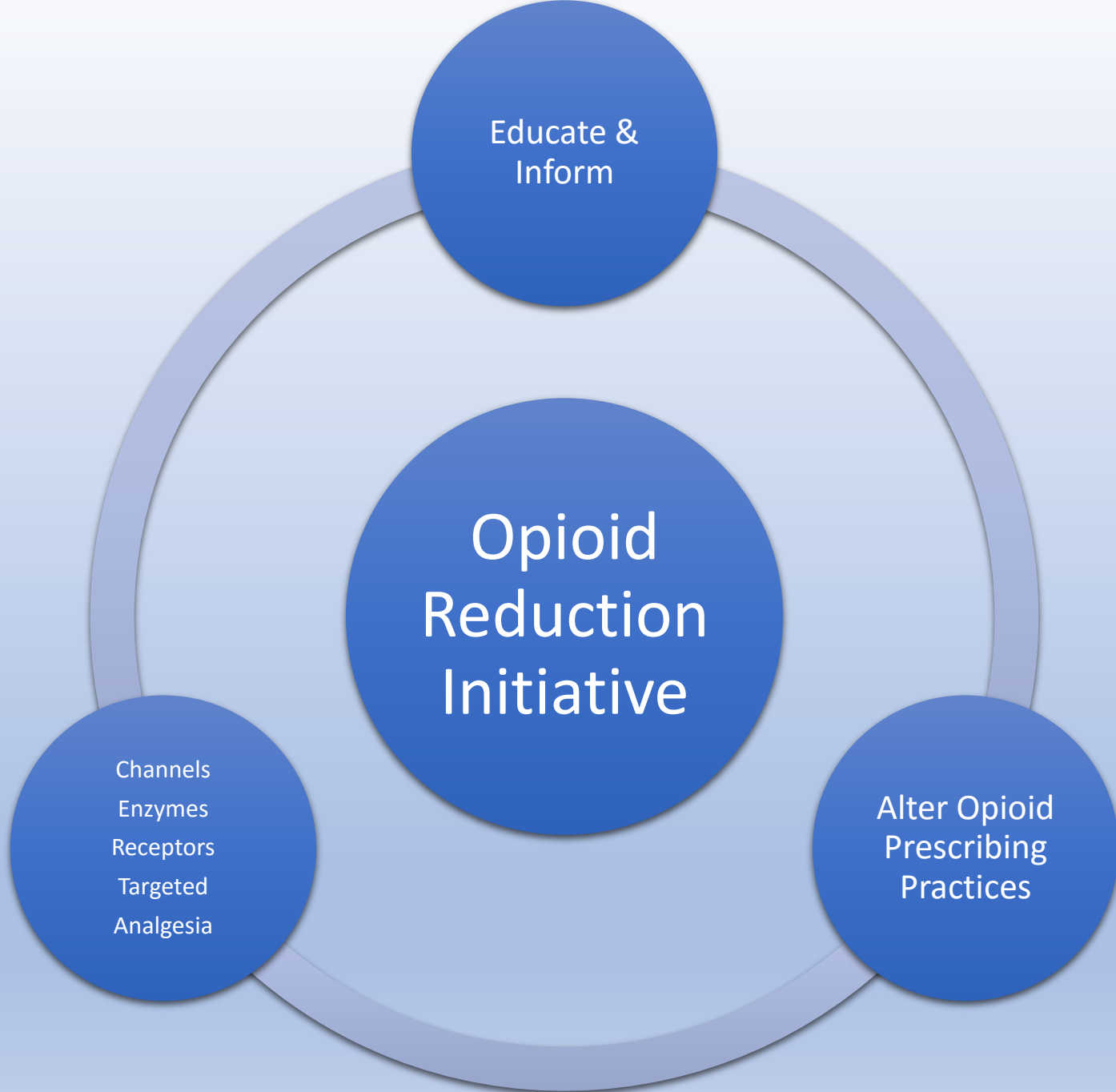


opioid use trajectories





Public Health
Crisis in the
United
States



HYPOTHESIS

- Implementing an opioid reduction initiative in the ED will result in an overall decrease in opioid utilization for patients during their stay and at discharge.





Maimonides
Medical Center



**RETROSPECTIVE
CHART REVIEW**

**Pre-Implementation
Phase**

2012 – 2014

**Implementation
Phase**

2014 – 2015

**Post-Implementation
Phase**

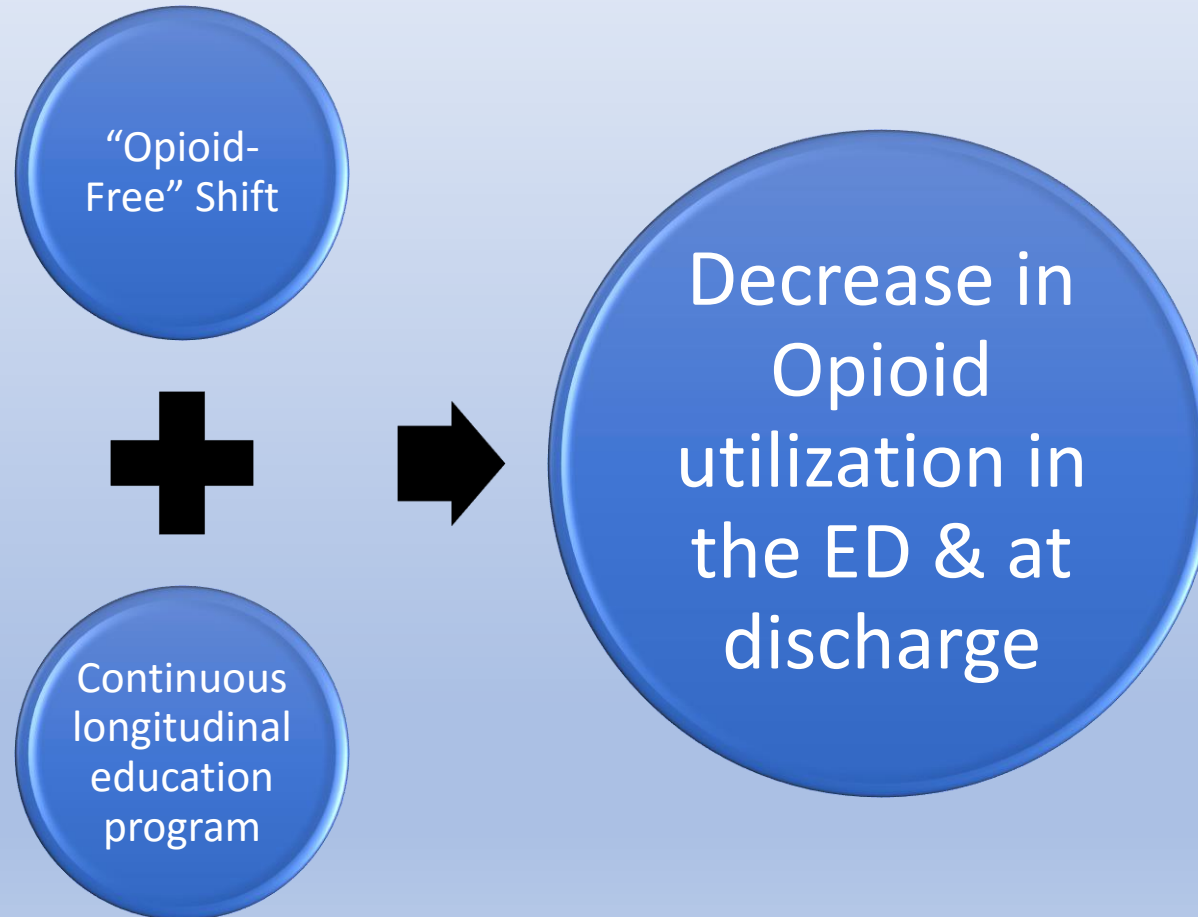
2015 – 2017

Data Collection Points

- Age
- Gender
- Chief complaints of abdominal pain and flank pain
- Final diagnoses of renal colic, kidney stone, nephrolithiasis, urinary calculus, and calculus in the kidney
- Analgesics administered in the ED (primary and rescue)
- Analgesics given at discharge (name, dose, route, and frequency of administration)

Implementation Phase

Opioid Reduction Initiative



Educational Program Topics

History of Opioid Epidemic in the US	Regional Anesthesia and Analgesia in the ED
Alternatives to Opioid Analgesics in the ED	Pitfalls of Parenteral Opioid Use in the ED
Concept of Opioid-Free ED	Evolution of ED Pain Management
Ketamine for Pain Management in the ED: Myth or Reality?	Topical Analgesics for Acute and Chronic Pain
Ketamine Infusion for ED Pain Management	Nitrous Oxide for Pain Management in the ED
Dexmedetomidine in the ED	IV Acetaminophen for Pain Management in the ED

Pre-Implementation
Implementation
Post-Implementation



Analgesic Administered?

Ordering Context



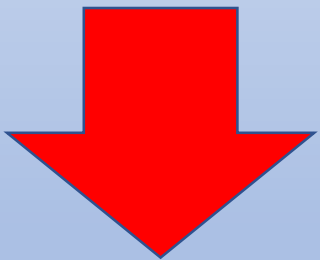
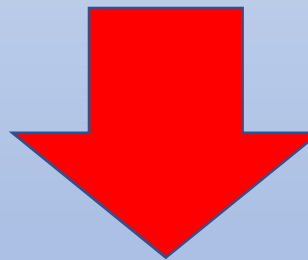
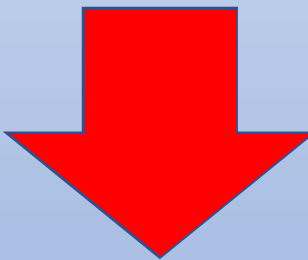
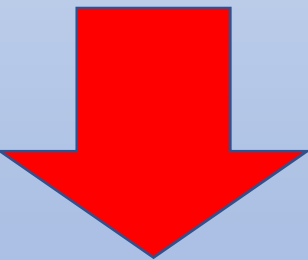
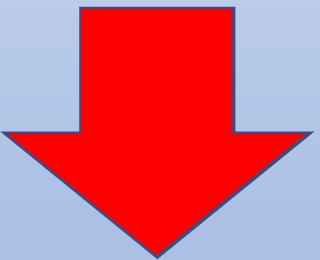
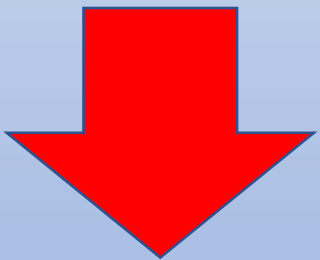
Opioids

Non-Opioids

Discharge medication

Medication administered in the ED

Rescue medication administered



Opioids
+
Non-opioids

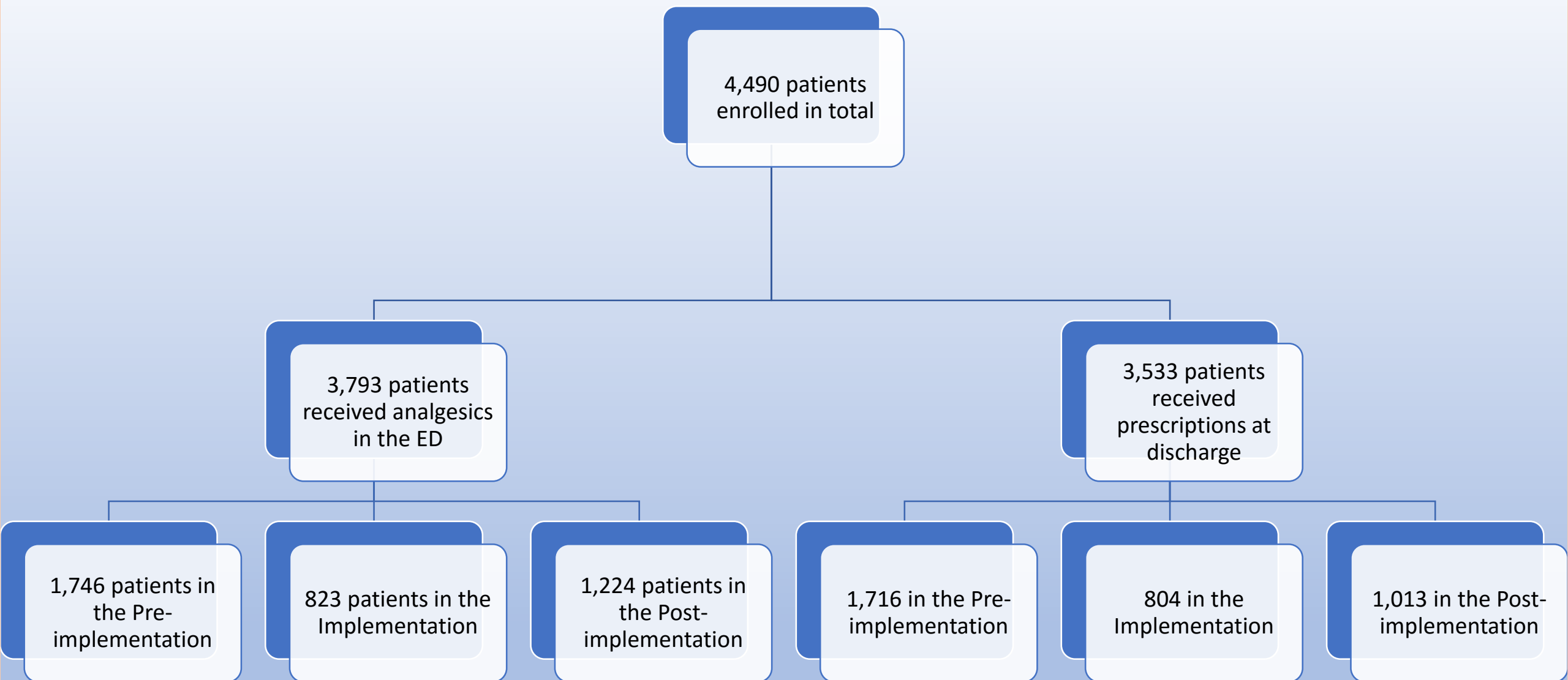
Opioids Only

Non-opioids
Only

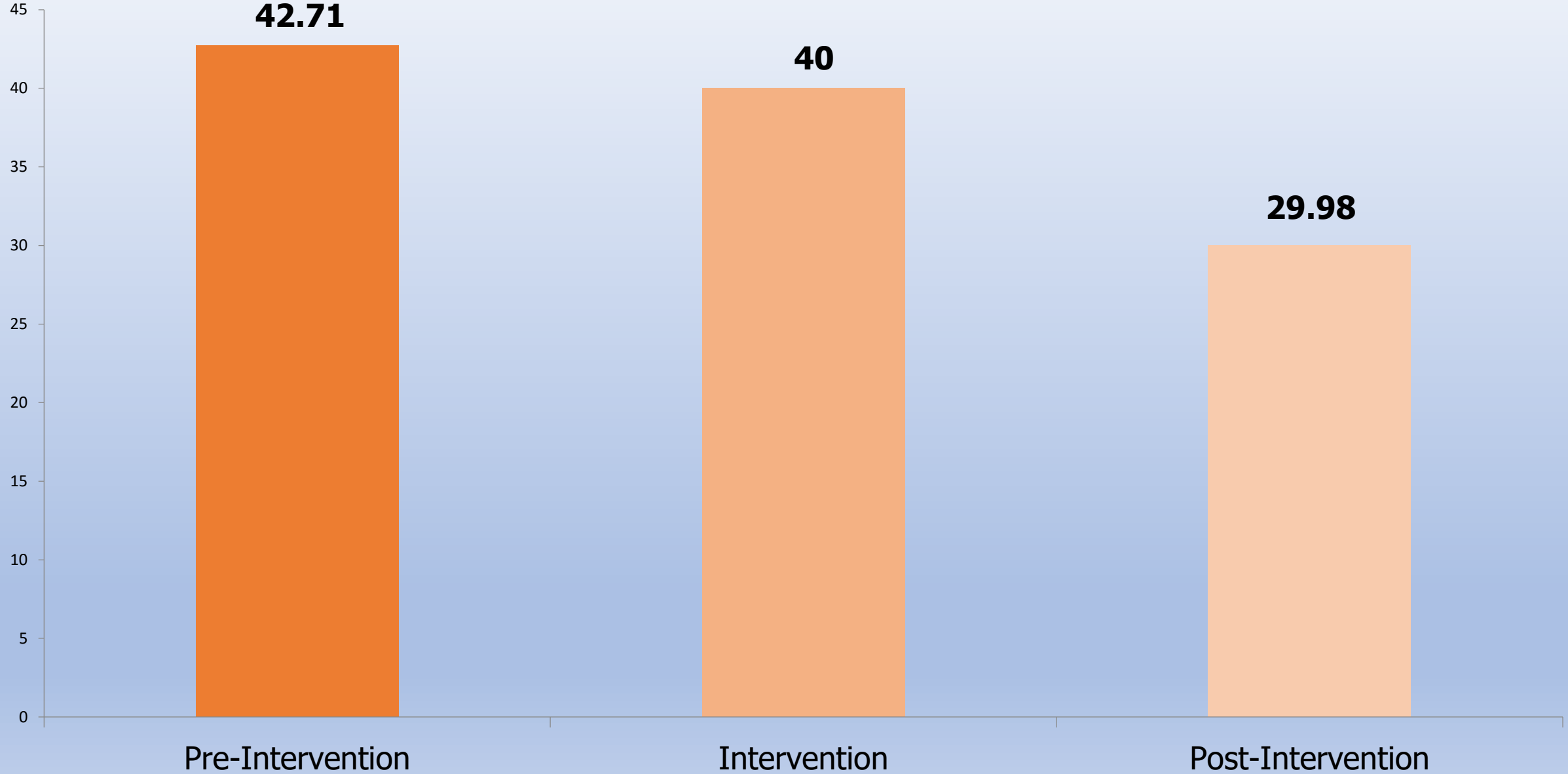
Neither

Results

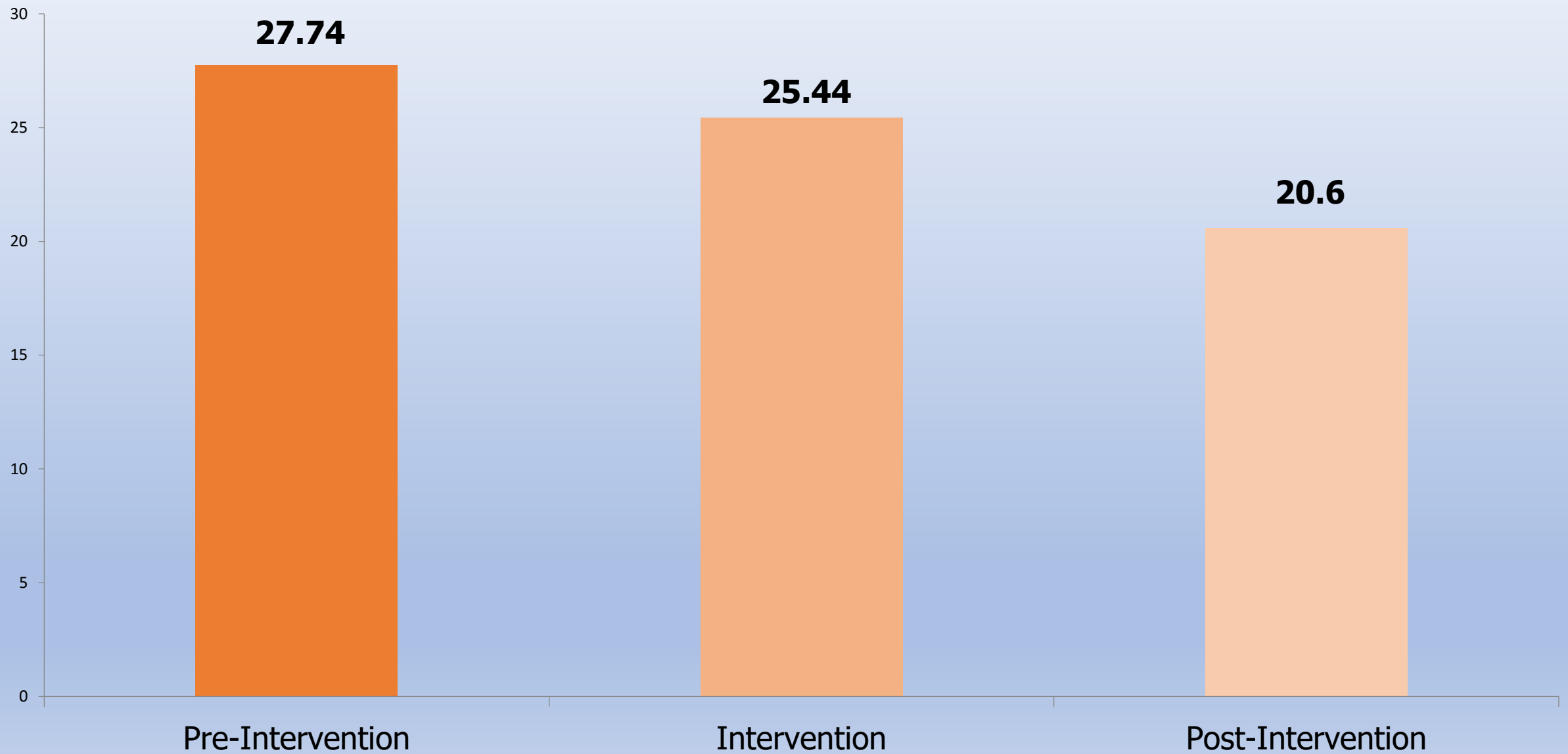




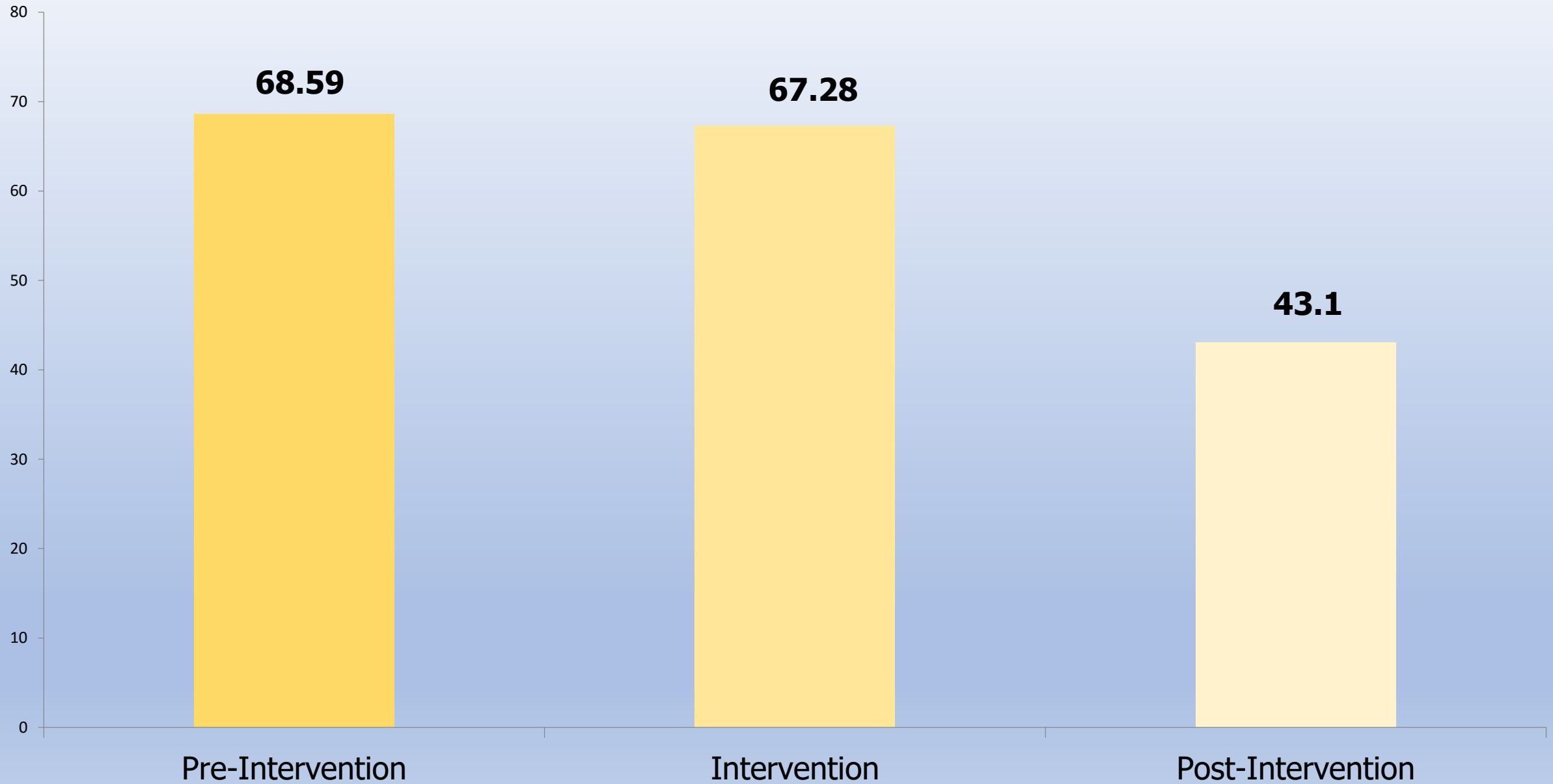
Total Opioids



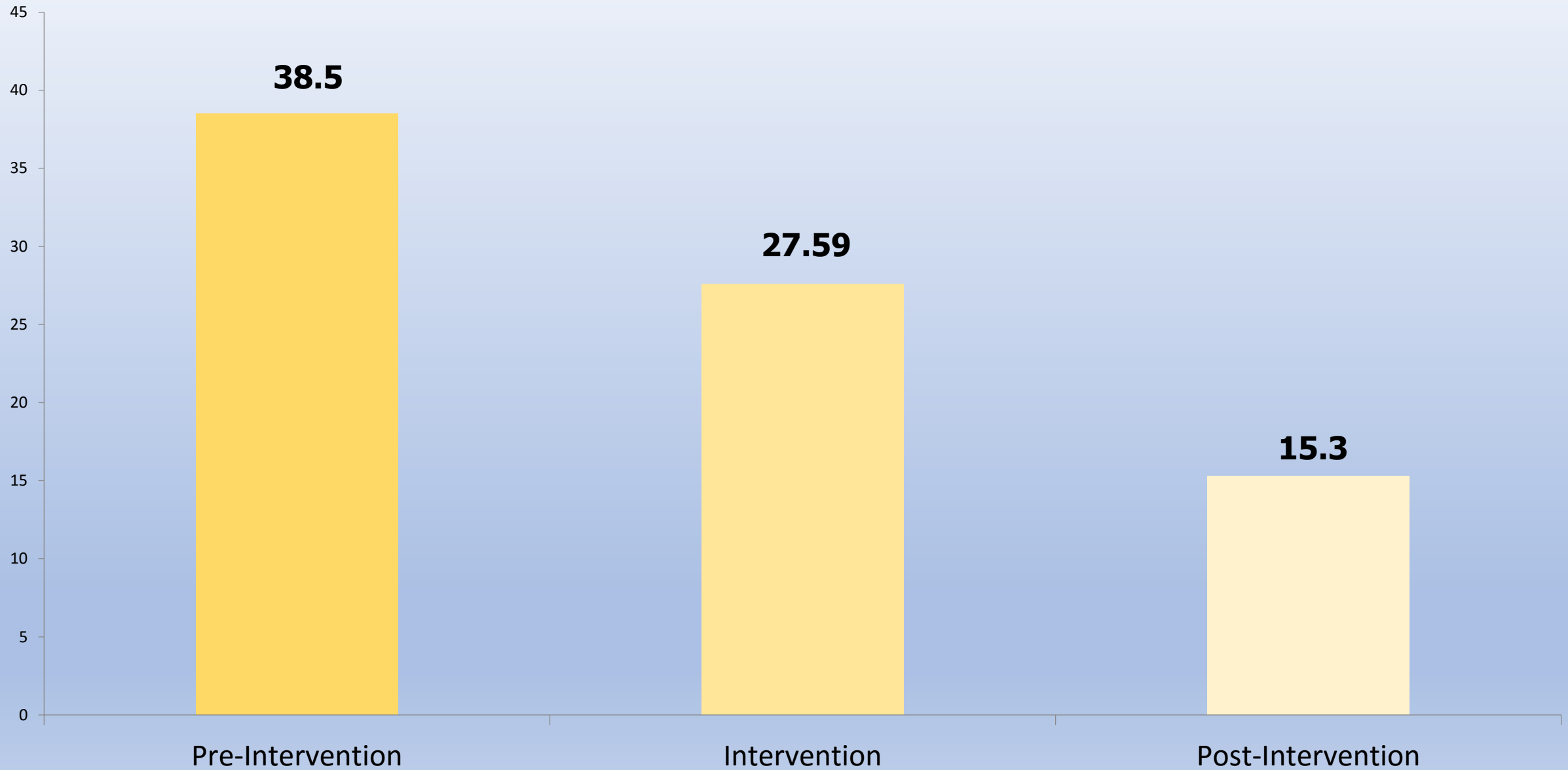
Opioids Only



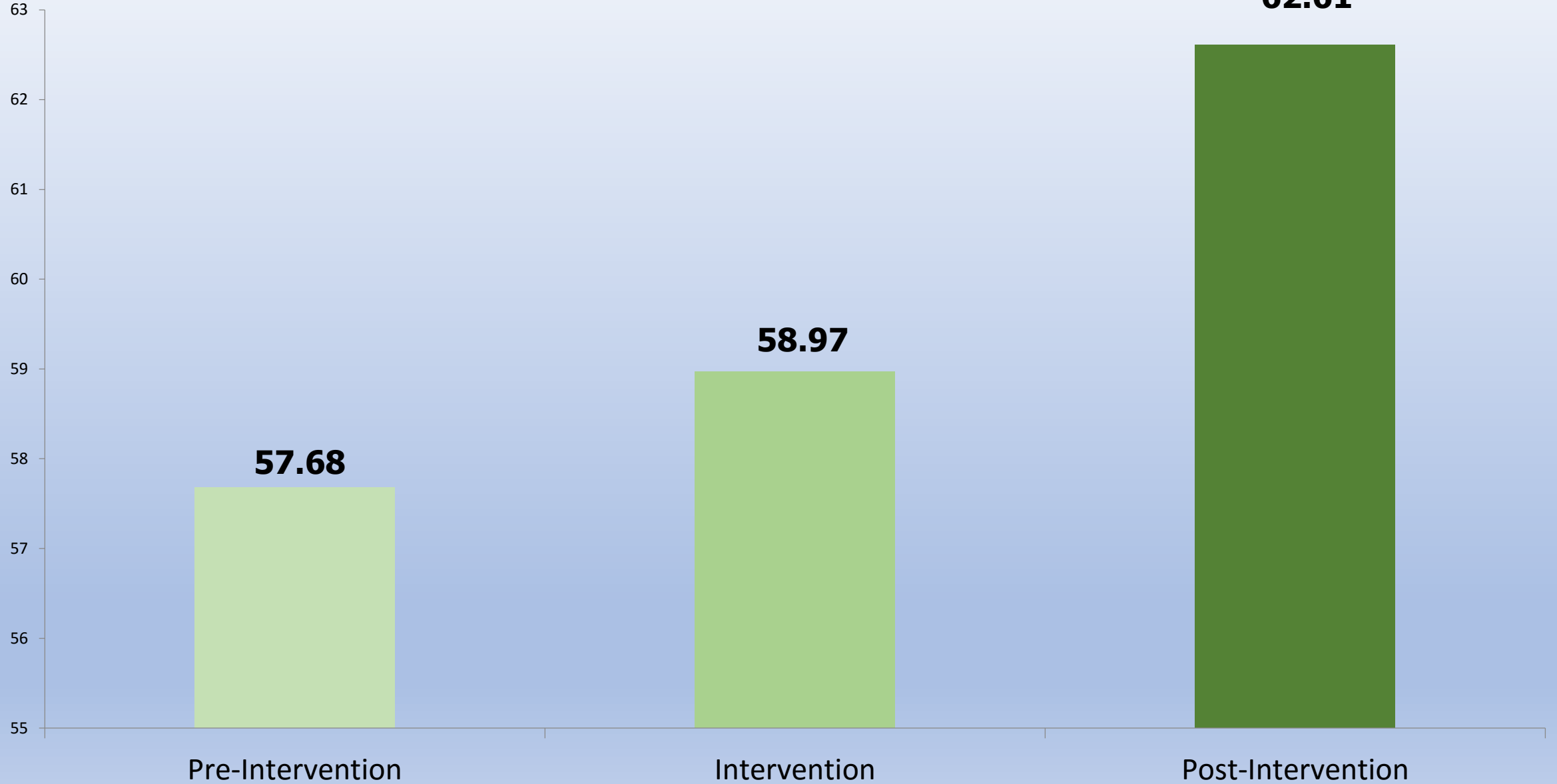
Total Opioids at Discharge



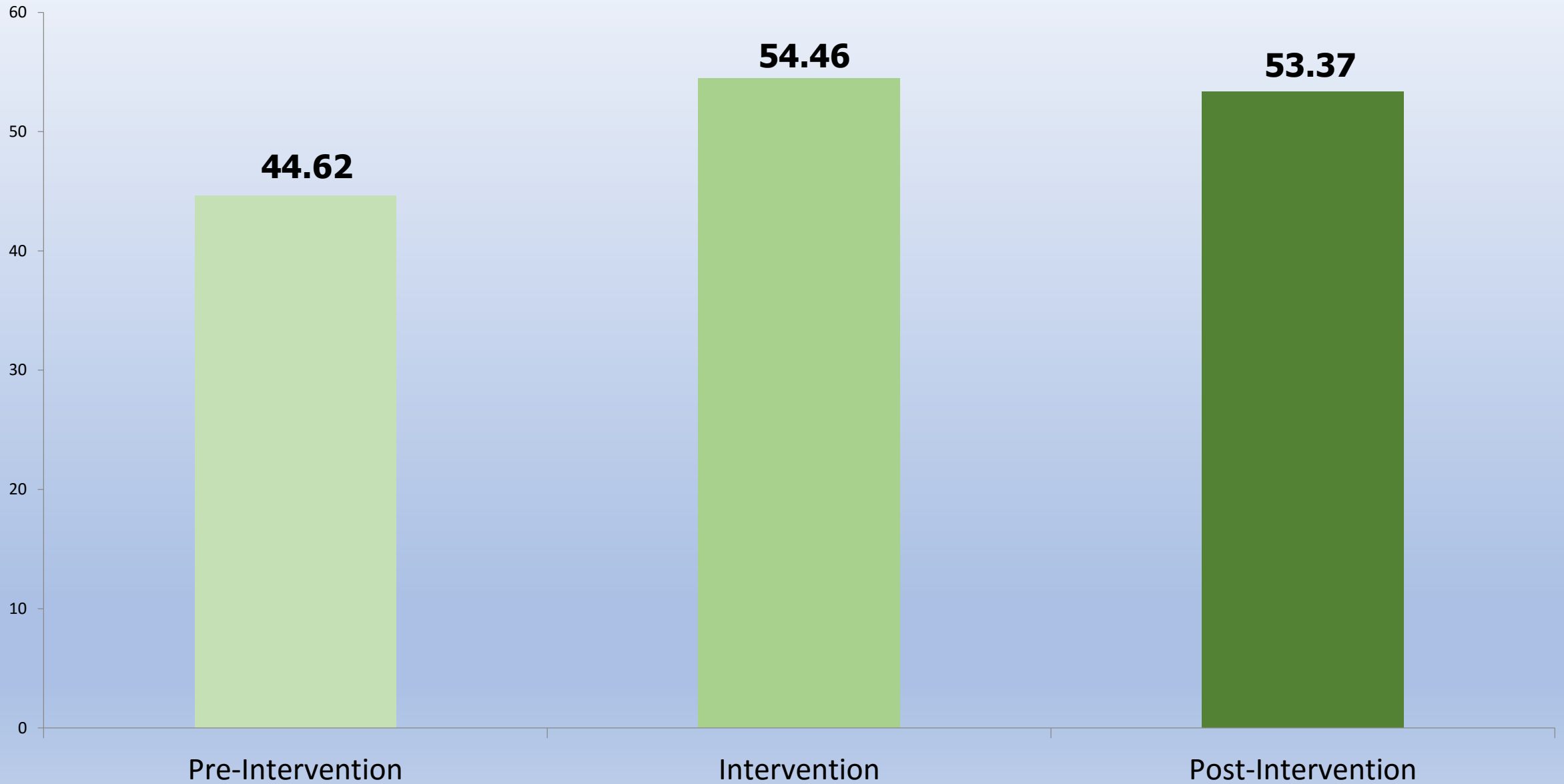
Opioids Only at Discharge



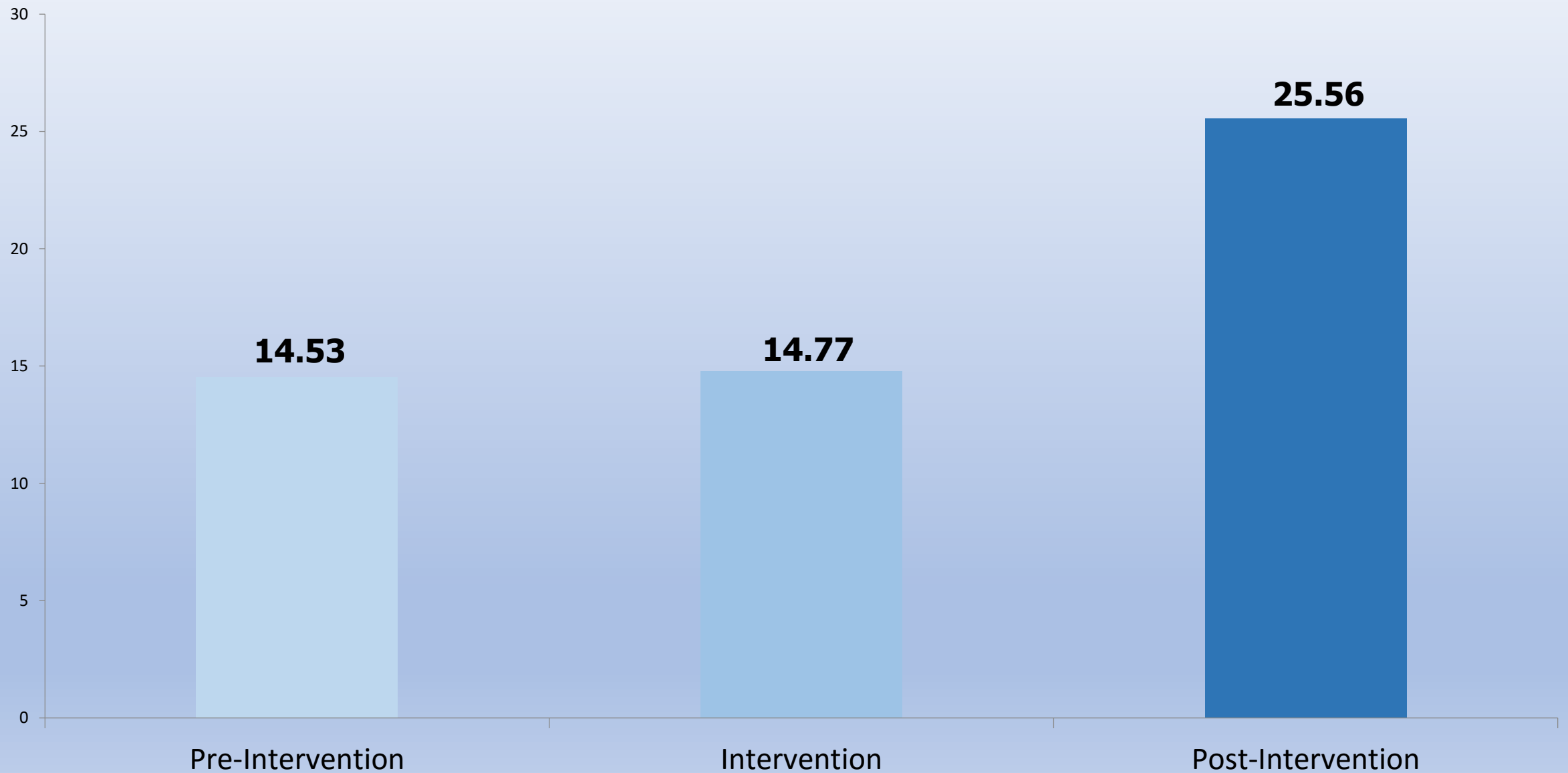
Total Non-Opioids in ED



Total Non-Opioids at Discharge



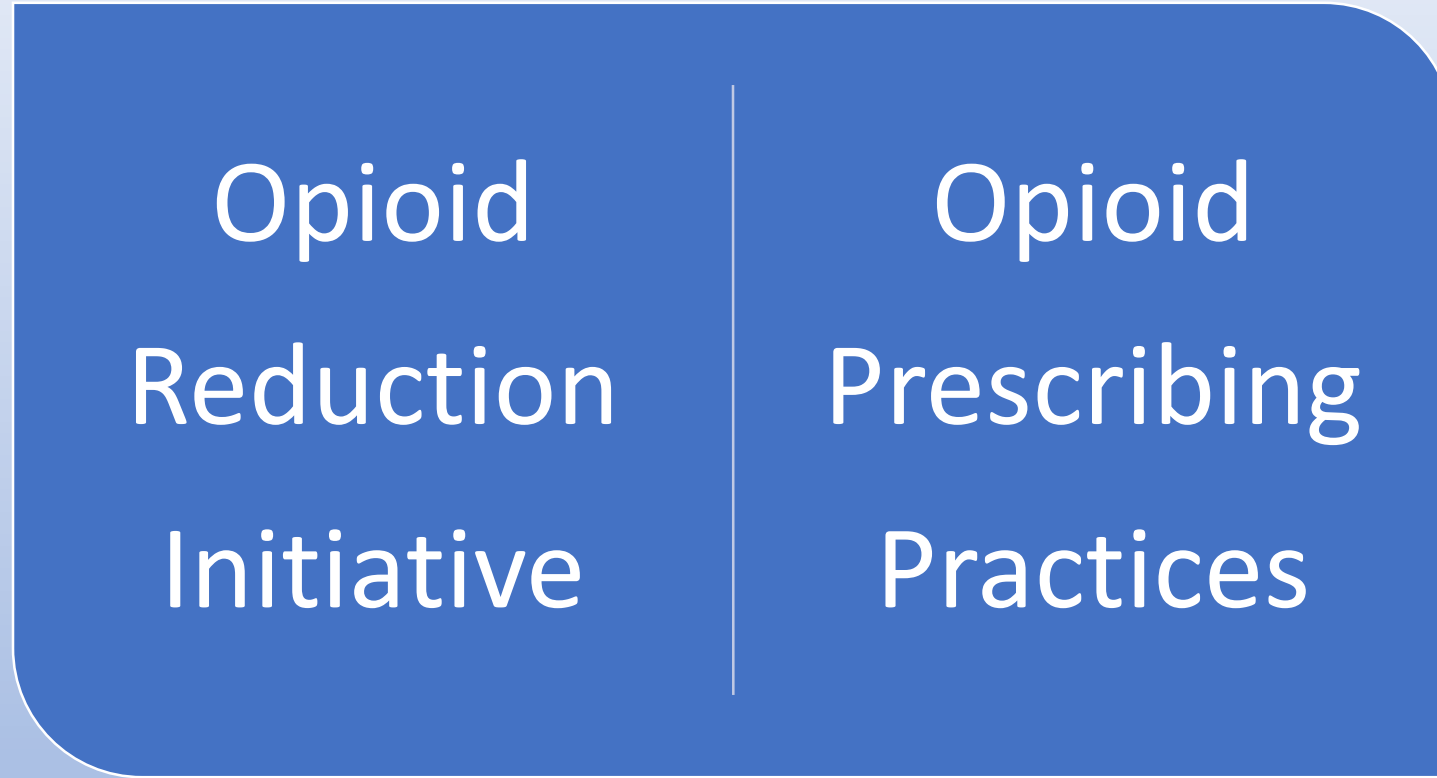
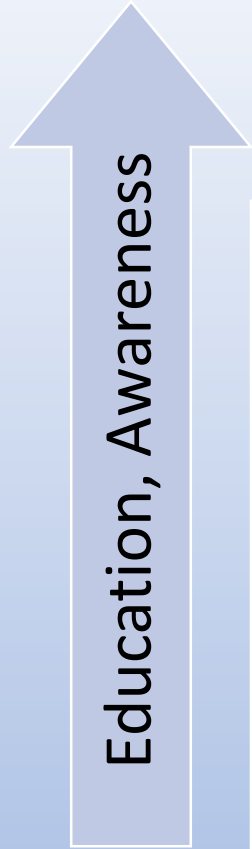
Non-Opioids Only at Discharge



In Emergency Department	Pre - Intervention	Intervention	Post - Intervention
Morphine Sulfate	39.58	36.62	28.35
Hydromorphone	0.83	0.72	0.07
Demerol	0.05	0	0
Fentanyl	0.05	0	0.27
Oxycodone/Acetaminophen	2.2	2.67	1.29
Codeine/Acetaminophen	0.15	0	0
At Discharge	Pre - Intervention	Intervention	Post - Intervention
Morphine Sulfate Immediate Release	0.05	0.2	5.3
Hydromorphone	0.1	0.1	0
Demerol	0.05	0	0
Hydrocodone/Acetaminophen	7.24	1.44	1.29
Oxycodone	0.2	0.1	0.2
Oxycodone/Acetaminophen	61.2	65.74	36.51
Codeine/Acetaminophen	1.17	1.23	1.29
Rescue	Pre - Intervention	Intervention	Post - Intervention
Morphine Sulfate	23.34	19.79	15.5
Hydromorphone	1.32	2.46	0.34
Demerol	0.05	0	0
Fentanyl	0.1	0.41	0.61
Oxycodone/Acetaminophen	5.77	3.79	1.63
Codeine/Acetaminophen	0.1	0	0.07

In Emergency Department	Pre - Intervention	Intervention	Post - Intervention
Ketorolac	55.28	56.51	56.15
Ketamine	0.05	0	0.07
Acetaminophen	1.13	1.33	4.35
Ibuprofen	1.17	0.72	2.72
Lidocaine	0	1.13	0.75

At Discharge	Pre - Intervention	Intervention	Post - Intervention
Gabapentin	0	0	0.07
Ketorolac	7	1.33	5.91
Acetaminophen	0.05	0.1	3.26
Ibuprofen	34.74	51.69	42.49
Lidocaine Patch	0	0	0.27
Naproxen	1.96	0.51	3.06



Therapeutic
Junk