

# Effect of TIRF-REMS on Transmucosal Fentanyl Prescribing

## A Time Series Analysis

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**8/3/2018**



# Our Research Questions

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1. Did TIRF-REMS implementation decrease overall TIRF prescribing?
2. Did TIRF-REMS decrease off-label prescribing?
3. Did TIRF-REMS decrease prescribing to patients not tolerant to other opioids?

Secondary questions:

- Differences by brand? By age group? # of prescribers vs # prescriptions. Did TIRF-REMS affect patients with/without cancer differently?

# Methods

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- Data source: Medicare Part D prescription claims
- Inclusion: all Part D prescriptions claims for opioids 2010-2014
- Exclusions
  - Abstral, Lazanda, Onsolis (already had a REMS)\*
  - IV/injectable drugs

\*only excluded for the prescribing rate analysis; are included in the opioid tolerance guideline adherence analysis as analysis would be invalid if some Rx excluded

# Methods

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- Defining cancer
  - No cancer diagnosis during prescription claim year
    - Sensitivity analysis: no cancer diagnosis during the entire study period
- Defining opioid tolerance
  - As defined in TIRF-REMS educational materials\*
  - Lookback using pt's opioid prescriptions for 7/14/30/60/90 day periods
  - “non tolerant” = below tolerance threshold in ALL lookback periods

\*Patients whose daily prescribed average was less than 60 MME in all of the look-back periods, and whose average daily dose of oxycodone or hydromorphone were less than 30mg and 8mg, respectively, were considered non-opioid tolerant.

# Methods

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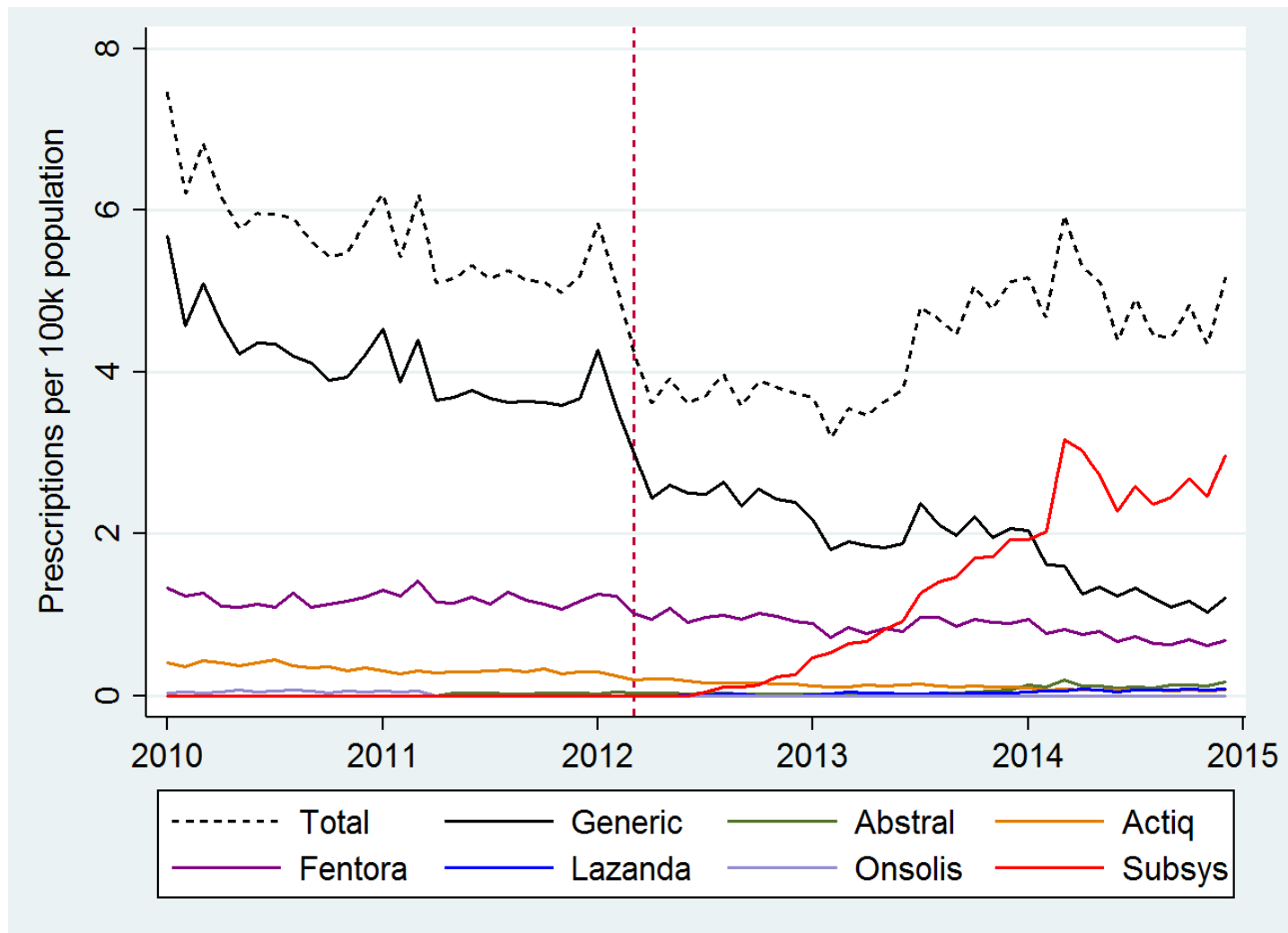
- Analysis:
  - Descriptive
  - Interrupted time series analysis
- Adjustment
  - Used all-opioid prescriptions as a control
    - Sensitivity analyses excluding buprenorphine, cold prep meds
  - Time series analyses adjusted for autocorrelation, seasonal variation, days in month

## Results – descriptive

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- TIRF
  - 99,601 prescription claims
  - 8,619 clinicians
  - 10,472 patients
  - Average age: 56 years
  - 79% of prescriptions for pts <65 yo
  - 72% of prescriptions for patients without cancer
- Opioids
  - 372,023,319 prescription claims
  - 2,001,523 clinicians
  - 27,409,105 patients

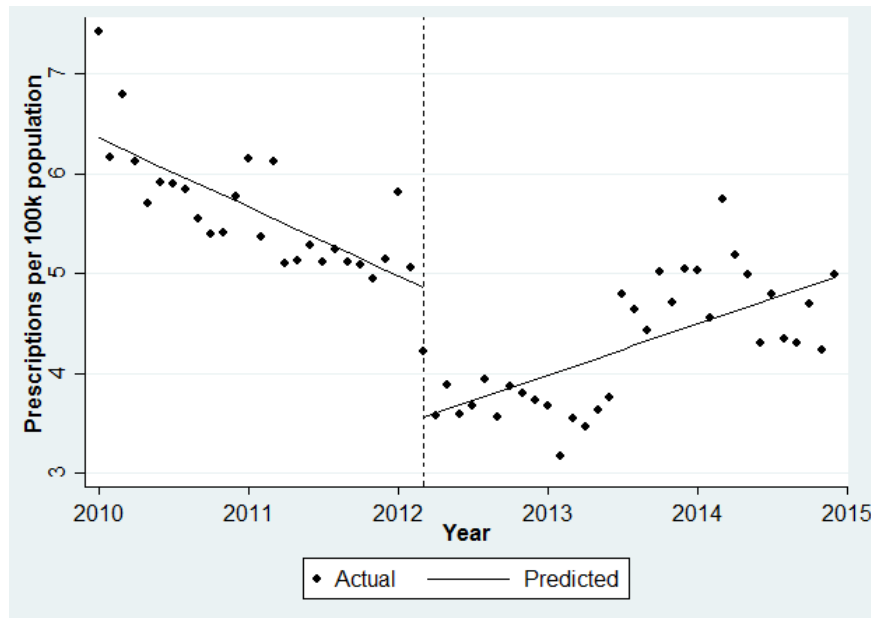
## Results – TIRF prescription claims 2010-2014, by brand



# Results – TIRF & Opioid prescription claims 2010-2014

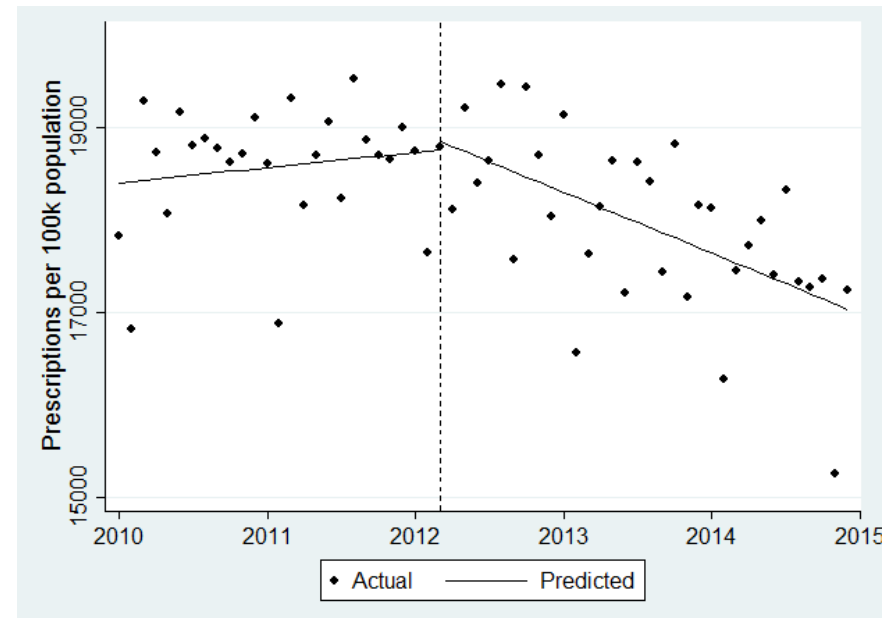
## TIRF

- **Pre trend:** 1% decrease
- **Level:** 27% decrease
- **Post trend:** 2% monthly increase



## All-opioids

- **Pre trend:** no sig trend
- **Level:** no change
- **Post trend:** 0.36% monthly decrease



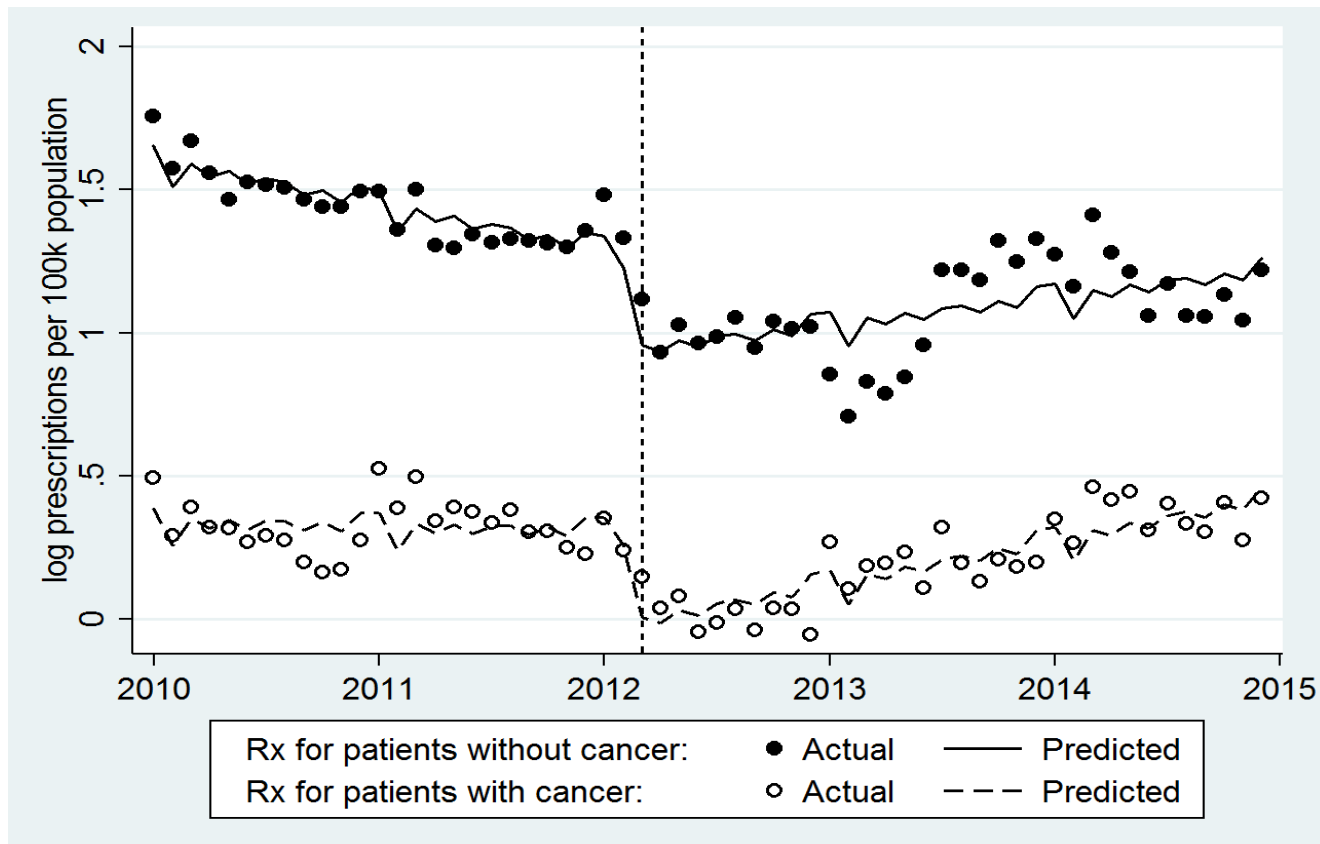


## Results – TIRF & Opioid prescription claims 2010-2014

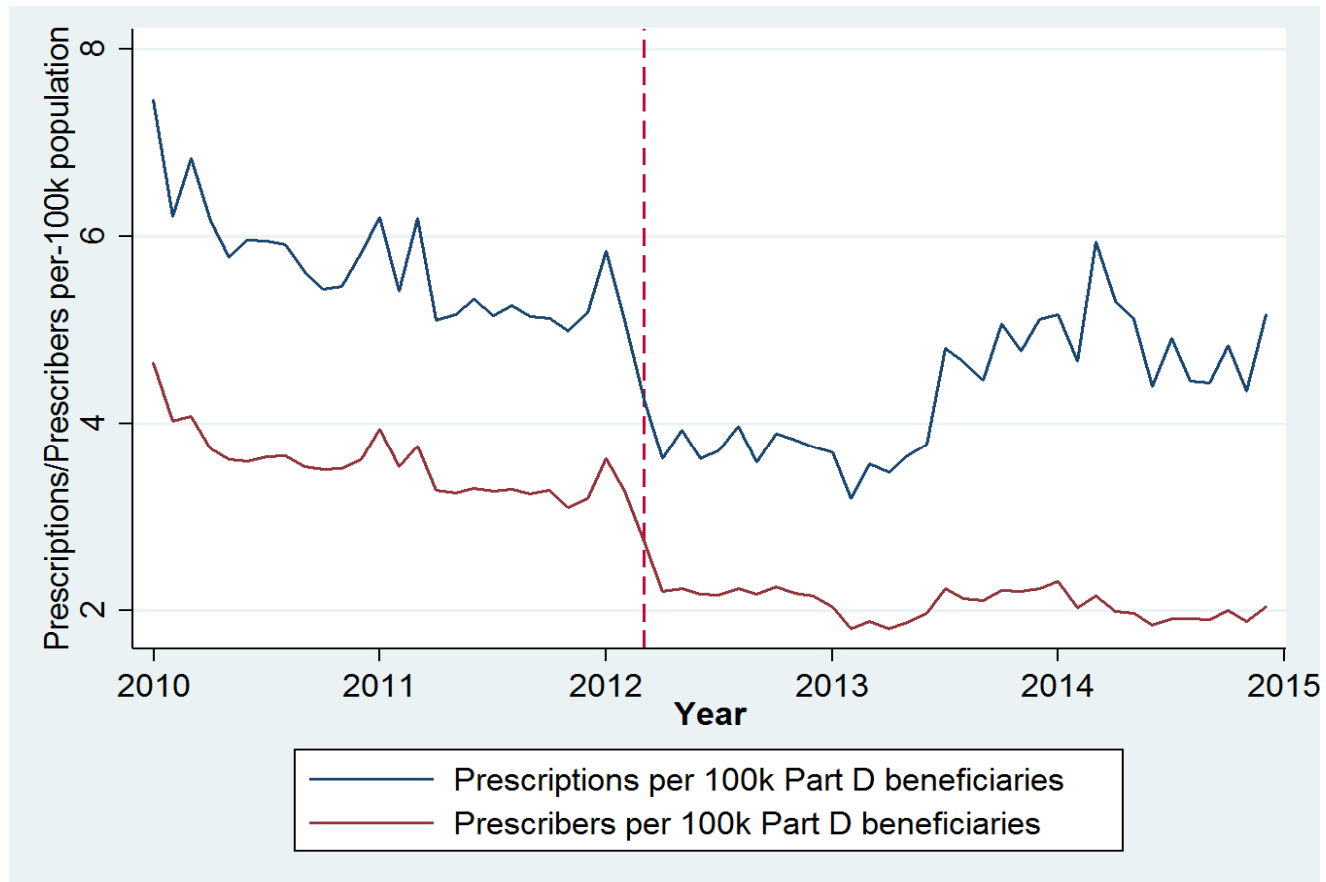
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- No sig differences between over/under age 65 as a result of the intervention
- No sig differences between brands as a result of the intervention
- No sig differences when buprenorphine is excluded

## Results – Overall rx to patients with/without cancer



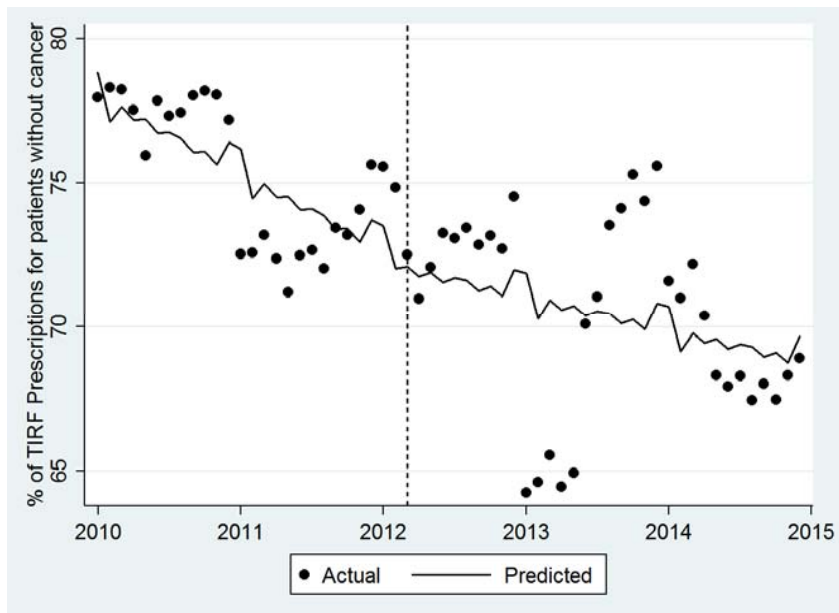
# Prescriptions and Prescribers



## Results – Prescriptions to patients without cancer

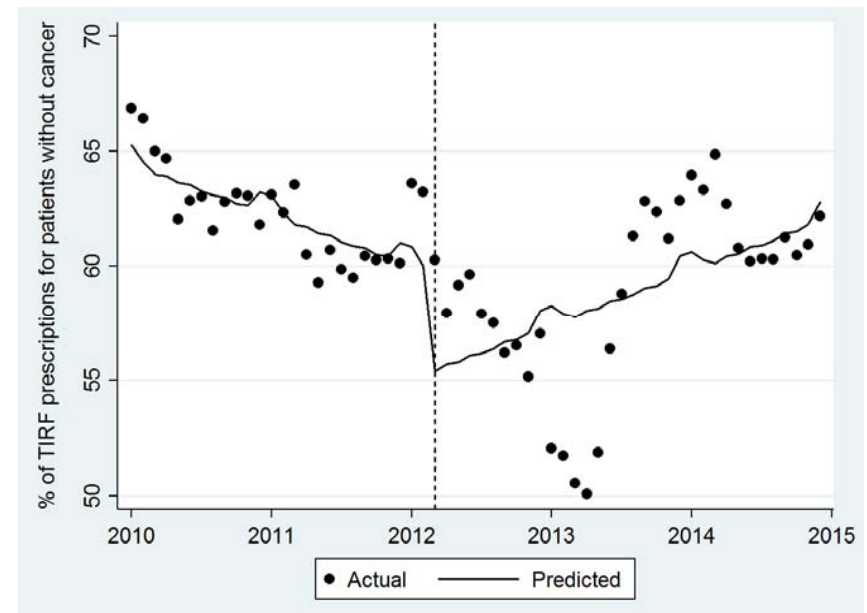
### Cancer in same year

- **Pre trend:** 0.29% decrease
- **Level:** no change
- **Post trend:** no sig trend



### Cancer during 5 year study period

- **Pre trend:** 0.29% decrease
- **Level:** 7.2% decrease
- **Post trend:** 0.63% monthly increase





# Limitations

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- Only Medicare Part D beneficiaries
- No out of pocket prescriptions data
- Formulary changes a potential confounder, but are generally prohibited after January

# Conclusions

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- REMS implementation resulted in a temporary decline in TIRF prescriptions for Part D beneficiaries.
- Most TIRF prescriptions are for patients without cancer
- REMS implementation may have resulted in a temporary decrease in prescribing to patients without cancer
- REMS implementation resulted in a lasting decrease in TIRF prescribing to patients not yet tolerant to other opioids

# Thanks

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- FDA CDER team
  - Doris Auth, Pharm.D., Judy Staffa, PhD, RPh, Claudia Manzo, Pharm.D., Tamra Meyer, PhD, MPH
- Joseph Ross, MD, MHS, Nilay Shah, PhD