Trends in Buprenorphine and Naltrexone Dispensation for Adolescents and Young Adults with Opioid Use Disorder, 2001-2014

Scott E. Hadland MD MPH MS, J. Frank Wharam MB BCh BAO MPH,
Mark A. Schuster MD PhD, Fang Zhang PhD,
Jeffrey H. Samet MD MA MPH, Marc R. LaRochelle MD MPH

scott.hadland@bmc.org
@DrScottHadland

BU School of Medicine

Boston Medical Center
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  - I have no commercial relationships to disclose
  - I will not be discussing any unapproved uses of pharmaceuticals or devices

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Introduction

- Heroin and prescription opioid use have resulted in a public health emergency in the US
  - Overdose deaths have surpassed motor vehicle crash fatalities
- 2 in 3 individuals in opioid treatment report first use before age 25; 1 in 3 reports first use before age 18
- In August 2016, the American Academy of Pediatrics released a policy statement calling for expanded access to pharmacotherapy for youth
  - Including **buprenorphine** and **naltrexone**, which can be given in primary care, and prevent relapse

AAP. *Pediatrics*. ePub, 22 Aug 2016. doi: 10.1542/peds.2016-1893
RA Rudd et al. *MMWR Morb Mortal Wkly Rep.* 2016;64(50-51):1378-1382
Treatment Episode Data Set (TEDS): 2013. SAMHSA, 2015

Introduction

- No large-scale studies have examined the proportion of adolescents and young adults who receive buprenorphine or naltrexone

Objectives:

1. To identify time trends in receipt of buprenorphine and naltrexone for adolescents and young adults with opioid use disorder (OUD) in a large commercial US health insurance database
2. To determine disparities in medication receipt by sex, age, race/ethnicity

Methods: Study Sample

Data Source:

- Claims from the Optum data
  - 9.7 million covered youth of age 13-25 years
- Includes all claims from a national commercial insurer
  - Inpatient, outpatient, emergency department, and pharmacy

Sample:

- Diagnosis of OUD (ICD-9 codes 304.0x and 304.7x) on ≥2 outpatient or ≥1 inpatient or emergency department encounter
- Diagnosis given January 1, 2001 to July 31, 2014

Methods: Outcome

Receipt of either medication *within 6 months* of first observed diagnosis of OUD:

1. **Naltrexone**
   - Oral short-acting naltrexone
   - Long-acting injectable naltrexone (after FDA approval in October 2010)
2. **Buprenorphine**
   - Buprenorphine or buprenorphine/naloxone (after FDA approval in October 2002)

** Individuals receiving both medications were classified according to the first medication they received*

Methods: Covariates, Analyses

Covariates:

- Sex
- Age of diagnosis
- Race/ethnicity* → *Using 2000 Census data combining information on neighborhood composition and a surname analysis*
- Neighborhood poverty
- Neighborhood education
- Year of diagnosis

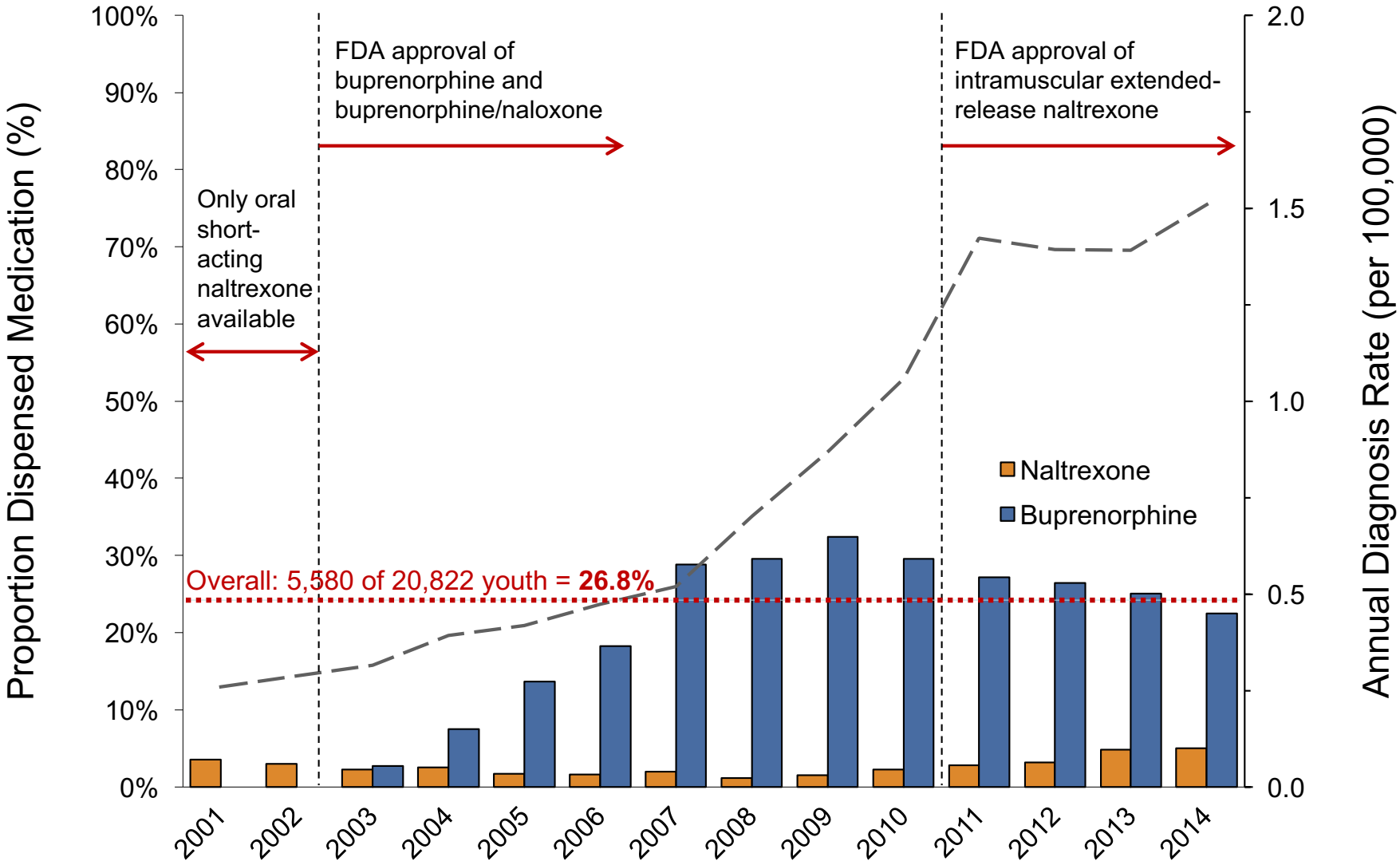
Analyses:

- Identified proportions of youth receiving either medication (buprenorphine or naltrexone)
- Logistic regression to identify covariates associated with receiving medication

Results: Demographics (*n* = 20,822)

Characteristic	Proportion of Sample (%)
Sex	
Male	66%
Female	34%
Age of diagnosis	
21-25 years	54%
18-20 years	34%
16-17 years	9%
13-15 years	3%
Race / ethnicity	
Non-Hispanic white	82%
Non-Hispanic black	1%
Hispanic	5%
Asian	1%
Mixed	11%

Receipt of Medication

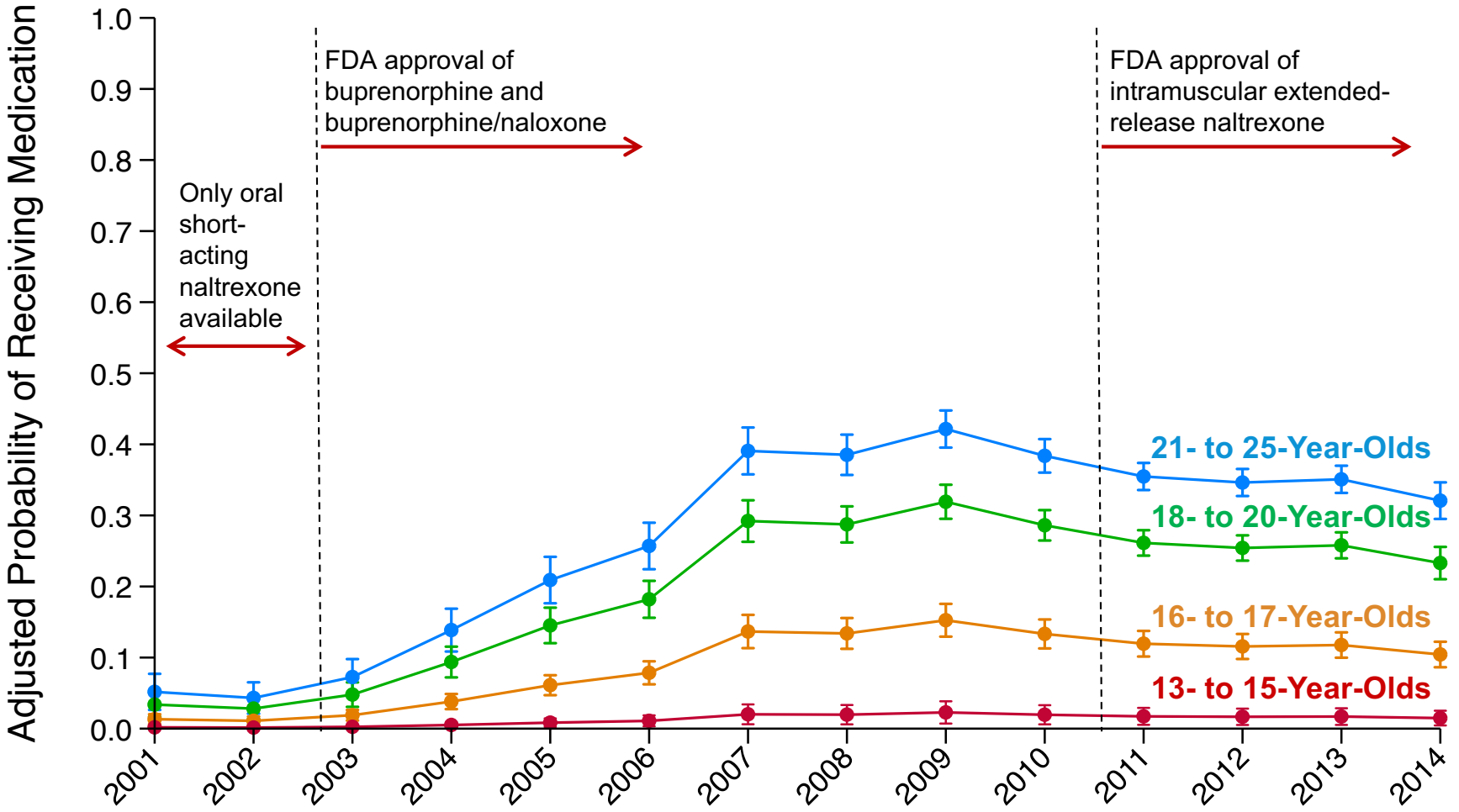


Results: Receipt of Any Medication

Characteristic	Adjusted* Odds Ratio (OR)
Sex	
Male	*Reference*
Female	**0.79 (0.73 – 0.84)**
Age of diagnosis	
21-25 years	*Reference*
18-20 years	**0.64 (0.60 – 0.69)**
16-17 years	**0.25 (0.21 – 0.29)**
13-15 years	**0.03 (0.02 – 0.06)**
Race / ethnicity	
Non-Hispanic white	*Reference*
Non-Hispanic black	**0.58 (0.33 – 0.99)**
Hispanic	**0.83 (0.71 – 0.97)**
Asian	0.81 (0.59 – 1.12)
Mixed	1.05 (0.93 – 1.17)

** Adjusts for all covariates listed, year of diagnosis, neighborhood education and neighborhood poverty*

Results: Medications By Age



Limitations

- Analyses do not adjust for *severity* of OUD
  - Possible that adolescents have less severe OUD resulting in lower proportions receiving medication
- *Selection* into the cohort likely associated with receipt of medications
  - Would result in *higher* proportions of youth receiving medications in our analyses
  - True proportion receiving a medication likely even lower due to under-diagnosis of OUD

Conclusions / Implications

Conclusions:

1. Proportion receiving medications **increased >10-fold** over last decade but **declined after a peak in 2009**
2. Only **1 in 4** received a medication in 2014
3. **Females**, **adolescents**, and **black, Hispanic** and **Asian** individuals less likely to receive medications

Implications:

- In light of recent recommendations (*e.g.,* American Academy of Pediatrics), medication treatment among youth has substantial room for improvement
- Special care is needed to ensure equitable access to medications for certain populations

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Email: scott.hadland@bmc.org
Twitter: @DrScottHadland