# The Potency of the Pill: ED Medications and Marriage Stability*

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**Abstract**

There has been recent interest in the phenomenon of "gray divorce:" an increase in the divorce rates of older couples, as overall divorce rates have been trending downwards. In this paper, we study whether technological developments in the treatment of Erectile Dysfunction (ED) may have contributed to these changing patterns in marital stability. We use a large dataset with the universe of prescription drugs for individuals covered by employer-sponsored health insurance to create a state-level panel dataset on utilization and prices of ED medications between 2008 and 2018. We link these data to individuals in the American Community Survey based on their state of residence and survey year, and estimate the effect of ED medication use on marital stability. We find that divorce rates among men aged 50–64 are negatively associated with ED medication prices and positively associated with ED medication utilization. Placebo tests using other medications prevalent among older men show no relationship with divorce rates. The findings suggest that increased access to ED medications can explain about 18% of the relative increase in divorce rates of older men.

*Preliminary and incomplete.

# 1 Introduction

Over the past several decades, divorce patterns in the United States have shifted in striking ways. While the overall divorce rate has steadily declined, divorces among older adults—often labeled "gray divorce"—have remained essentially flat and are now substantially higher than in 1990. Figure 1 illustrates this pattern using data from the American Community Survey (ACS): among individuals aged 50 and above, divorce rates have not followed the aggregate downward trend and instead remain relatively flat. These patterns raise important questions about the determinants of marital stability at older ages.

In this paper, we study how the diffusion of erectile dysfunction (ED) medications affects marital stability among older adults. Since the late 1990s, ED medications such as Viagra and Cialis have transformed the treatment of male sexual dysfunction and are widely used among men aged 50 and above. Yet the implications of these medications for the stability of existing marriages are theoretically ambiguous. On the one hand, by restoring sexual function and potentially improving intimacy, ED medications may strengthen relationship quality within ongoing marriages, alleviate sexual frustration, and reduce the risk of separation or divorce. On the other hand, improved sexual functioning can increase men's outside options in the marriage market, facilitate the formation of new partnerships, and shift intra-household bargaining power in ways that exacerbate pre-existing tensions in fragile unions. In addition, if ED medications differentially benefit individuals who were already contemplating separation, they may accelerate the timing of divorce rather than preventing it. Without empirical evidence, the net effect is unclear.

We combine large-scale administrative and survey data to examine the impact of ED medications on divorce. Our analysis links state-year measures of ED medication prices and utilization from IBM MarketScan, a detailed claims database for commercially insured individuals, to individuals in the American Community Survey, and estimates the effect of ED medication access on divorce behavior. From the MarketScan data, we construct measures of the effective days of ED medication supplied per enrollee and the corresponding (post-insurance and pre-insurance) prices. We then merge these measures to the ACS data to estimate how changes in ED medication use and prices affect the probability that a married individual aged 50 or older divorces in the next year.

We use state-year-level measures of the log price per effective day of ED medication as instruments for the log effective days supplied per enrollee. This approach exploits variation over time and across states in ED medication prices, which are plausibly influenced by supply-side factors such as regional bargaining between insurers and manufacturers and the structure of pharmacy benefit management, rather than by underlying divorce risk.

We document a robust positive relationship between ED medication use and divorce among older men. Higher ED medication utilization is associated with a significantly higher likelihood of divorce for men aged 50–64 and for men aged 50 and above. In our baseline OLS specifications, a one-standard-deviation increase in ED usage—approximately a 20 percent rise in average effective days supplied per enrollee—is associated with about 0.5 additional divorces per 1,000 married men, or roughly 4 percent of the mean divorce rate. Instrumental variables estimates that exploit plausibly exogenous variation in ED medication prices yield very similar magnitudes. Back-of-the-envelope calculations imply that increased ED medication use can account for approximately 18 percent of the relative increase in divorce rates among older men over the study period, compared with men younger than 50. We find qualitatively similar patterns replicating the main ACS results using the Current Population Survey (CPS) data.

Dynamic specifications reveal that the effects are concentrated at short horizons: ED medication use predicts higher divorce risk primarily within one year, with little evidence of persistent effects beyond two to three years. This pattern is consistent with ED medications accelerating divorce among couples already close to dissolution rather than generating long-run changes in marital stability.

We conduct two sets of placebo and falsification tests. First, the relationship appears specific to ED medications: analogous analyses using other medications commonly taken by older men—such as statins and medications for benign prostatic hyperplasia—show no association with divorce. Second, we find no comparable effects for younger men, among whom ED prevalence and ED medication use are rare, making it unlikely that our estimates are picking up broader trends in medication consumption or unobserved state-level shocks.

Although divorce is a joint outcome, we find no corresponding relationship between ED medication use and divorce for women of the same age range. We argue that this gender heterogeneity reflects exposure mismeasurement along two dimensions. First, women aged 50–64 (or 50 and above) are not necessarily married to men in the treated age range, so female samples based on women's own age face diluted exposure relative to the male sample. Second, when spouses do not co-reside, ED medication use is measured at the woman's state of residence, while the relevant exposure is ED medication use in the husband's location. Using the CPS to recover spouse age information and to construct a transition-based measure of divorce, we show that when women are conditioned on being married to and ever observed living together with older men, ED medication use is positively and significantly associated with divorce for women as well. Taken together, these results indicate that ED medications increase divorce risk for both spouses, and that the absence of female effects in the ACS reflects exposure mismeasurement.

Our paper relates to several strands of literature. First, it contributes to work on the effects of medical and pharmaceutical innovations on marriage, fertility, and household economic behavior. A large literature has examined how the diffusion of contraceptive technologies, abortion access, and reproductive health innovations reshaped marriage, fertility, and women's labor supply (e.g. Goldin and Katz 2002; Bailey 2006). More recent work studies how new medical treatments and pharmaceutical innovations for chronic and life-threatening conditions reshape economic behavior—by improving patients' health and work capacity and, in some settings, shifting labor supply and time allocation within the household (e.g. Thirumurthy et al. 2008; Garthwaite 2012; Jeon and Pohl 2019). We add to this line of research by showing that a medical innovation targeted at older men's sexual health can have sizable and perhaps unintended consequences for marital stability.

Second, we speak to the growing literature on gray divorce and late-life family dynamics. A number of papers document the rise of divorce at older ages, characterize the socioeconomic and demographic profile of gray divorcés, and analyze the consequences for economic security, health, and intergenerational support (e.g. Brown and Lin 2012; Lin and Brown 2021; Crowley 2018). The existing literature emphasizes shifts in cohort norms, longevity, and women's economic opportunities as key drivers of late-life union dissolution. Our contribution is to highlight a complementary mechanism: improved male sexual function and associated changes in outside options within long-term marriages.

Finally, our findings connect to research on sexual health, aging, and well-being. Clinical and survey evidence shows that erectile dysfunction is highly prevalent among older men and that ED medications can substantially improve sexual activity (e.g. Feldman et al. 1994; Goldstein et al. 1998; Fisher et al. 2005). At the same time, studies in psychology emphasize that changes in sexual functioning can reshape power, intimacy, and conflict within partnerships (e.g. McNulty et al. 2016; Vance et al. 2024). By linking state-level ED medication utilization to divorce behavior, we provide, to our knowledge, the first large-scale evidence on how treatments for sexual dysfunction map into realized marital outcomes.

The remainder of the paper proceeds as follows. Section 2 describes the ACS and MarketScan data and defines the analysis sample and key variables. Section 3 outlines the empirical strategy. Section 4 presents the main OLS and IV results. Section 5 examines extensions and mechanisms, including gender differences, intensive versus extensive margins of ED medication use, and effect dynamics. Section 6 reports falsification and robustness checks. Section 7 concludes.

## 2 Institutional Background and Data

We use two main data sources. The individual-level divorce behavior is from the American Community Survey (ACS) data. Prices and utilization of ED medication purchases are sourced from the MarketScan Commercial Claims and Encounters (CCAE) Data. We also use the Current Population Survey (CPS) to provide complementary evidence.

### 2.1 ACS Data: Divorce and Demographic Characteristics

Following Brown and Lin (2012), we use the ACS data to study divorce behavior among older adults. The ACS divorce question is available starting in 2008; we use data from 2009–2019, excluding 2008 due to potential impacts from the global financial crisis and years after 2019 to avoid disruptions associated with the COVID-19 pandemic.

We construct divorce outcomes following the standard approach in the gray divorce literature. Specifically, we restrict the sample to individuals "at risk" of divorce: respondents who report being divorced or widowed in the prior 12 months, as well as those who are married or separated at the time of the interview. The dependent variable is an indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation.

Figure 1 plots the divorce rates for the overall population, individuals aged 50 and above, and individuals aged 50–64. While the divorce rate for the overall population has continued to fall, the gray divorce rate has been essentially flat in recent years. Moreover, the gray divorce rate in recent decades is substantially higher than its level in 1990 (Brown and Lin 2012). These contrasting trends motivate our analysis of the determinants of gray divorce.

We control for a rich set of individual-level covariates, including age fixed effects; race indicators (Black, Asian, and Other Non-White); Hispanic origin; an indicator for being foreign-born; educational attainment; and indicators for both

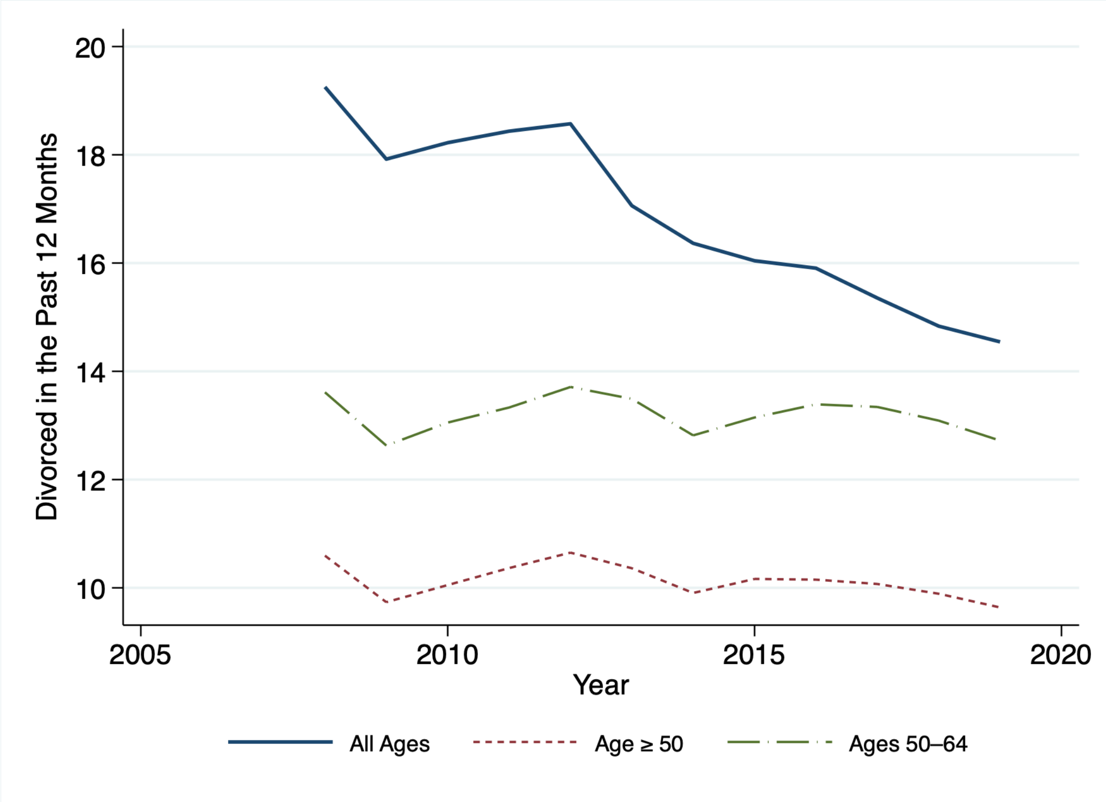


Figure 1: Overall and Gray Divorce Rates

*Notes:* This figure plots annual divorce rates for the overall population, individuals aged 50 and above, and individuals aged 50–64 using ACS data. Divorce rates are constructed following the standard marital instability literature by restricting the sample to individuals "at risk" of divorce: respondents who were divorced or widowed in the prior 12 months, as well as those who were married or separated at the time of the interview. The outcome is an indicator for whether the individual divorced within the previous 12 months, scaled by 1,000 for ease of interpretation. While the divorce rate for the overall population has declined over time, divorce rates among older individuals ("gray divorce") have remained relatively flat in recent years.

the presence and the number of co-resident children.[1]

At the state–year level, we additionally include demographic and labor-market controls, including gender-specific employment rates; the gender wage gap among workers aged 50–64; population shares of Hispanic, Black, Asian, Other Non-White, and foreign-born individuals; the share of adults with some college education; the sex ratio; log state GDP and log population; log monthly rent; and a state–year measure of the share of sample individuals with employer- or union-sponsored insurance coverage. These controls capture time-varying differences in demographic composition and economic conditions that may jointly influence medication use and marriage outcomes. All monetary variables are converted to 2010 dollars using region-specific Consumer Price Index deflators.

Appendix Table B.2 reports divorce rates across demographic groups. Table B.3 presents summary statistics for the individual-level ACS variables used in the analysis, and Table B.4 reports summary statistics for the state–year covariates.

## 2.2 MarketScan Data: ED Medication Measures

Prices and utilization of ED medication purchases are sourced from the IBM/Truven Health MarketScan Commercial Claims and Encounters (CCAE) Database. MarketScan is a database of individual-level claims for inpatient, outpatient, and prescription drugs.[2] It is an unbalanced panel with people coming and going. The data include only individuals who are either employed themselves or dependents of the employed workers.

The dataset allows us to observe the variation in ED medication utilization and prices across states and years, which is central to our empirical strategy. This variation reflects the rapid evolution of the ED medication market over the past two decades. Sildenafil (Viagra) was approved by the U.S. Food and Drug Administration (FDA) in 1998, followed by tadalafil (Cialis) and vardenafil (Levitra) in 2003. Subsequent generic entry in 2017 substantially altered the pricing and availability of ED medications, generating sharp changes in both quantities consumed and prices paid by patients.

Importantly, clinical and survey evidence indicate that ED is strongly age-graded, implying that changes in ED medication access primarily affect older

[1]Because the ACS only observes currently co-resident children, these variables may be endogenous to divorce decisions. Our results are robust to excluding them.

[2]Information about MarketScan data can be found at http://truvenhealth.com/your-healthcare-focus/analytic-research/Marketscan-research-databases. This dataset has been widely used in past studies to look at trends in health care markets, such as in Baker et al. (2015) and Ellis and Manning (2007).

men. Prevalence estimates show that only a small fraction of men in their 30s report persistent erectile difficulties, whereas prevalence rises sharply after age 50 and exceeds one-half among men in their 60s and 70s (Feldman et al. 1994). Utilization patterns in our MarketScan data closely mirror these clinical patterns.

Figure 2 plots the age distribution of enrollees with ED medication purchases, showing both (i) all enrollees with any ED medication claims and (ii) those with more than 30 effective days supplied in a given year. ED usage is concentrated among men aged 50–64, with considerably lower use in younger cohorts. This motivates our focus on men aged 50–64 as the primary treated population, while younger cohorts serve as a useful comparison group in placebo and heterogeneity analyses. We formalize this choice below when describing sample construction.

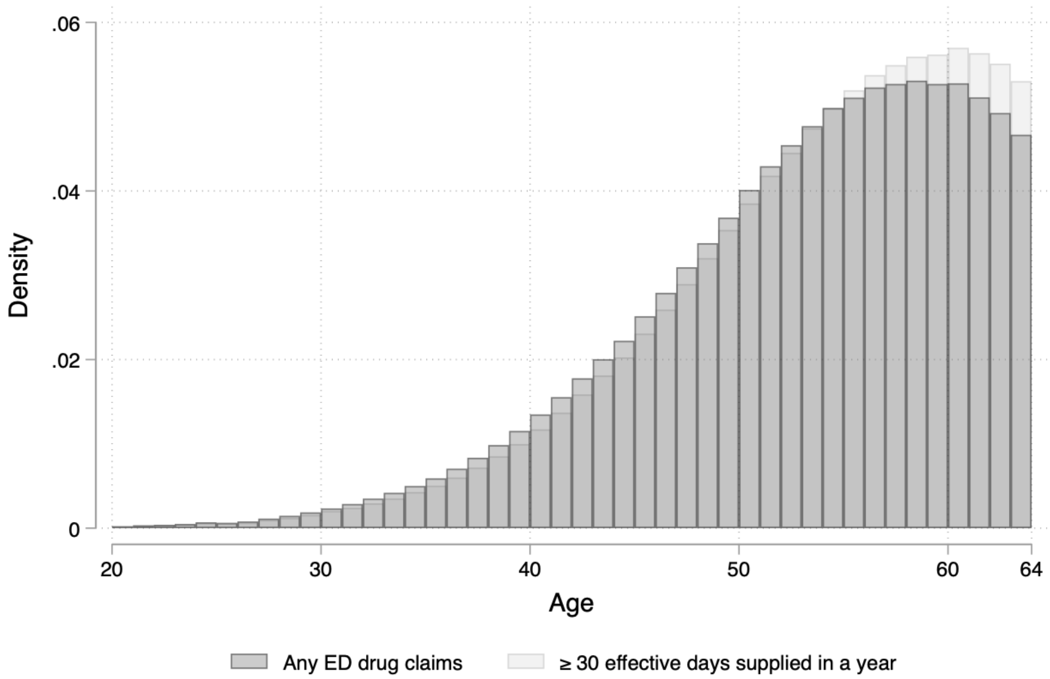


Figure 2: Age Distribution of Enrollees with ED Medication Claims

*Notes:* This figure shows the age distribution of enrollees with ED medication claims. We first compute, for each enrollee, the total number of effective days supplied from all ED medication purchases in a given year. The darker histogram shows the age distribution of all enrollees with any ED medication purchases, while the lighter histogram depicts the distribution for those whose total effective days supplied exceed 30 in that year. Age 64 is excluded because our sample requires 12 months of enrollment within each calendar year, and individuals exit the dataset once they turn 65. Consequently, very few enrollees aged 64 remain in the sample.

Because ACS divorce outcomes are measured for calendar years 2009–2019 and refer to divorces occurring in the prior 12 months, we construct lagged state–year measures of ED medication prices and utilization from the MarketScan data for years 2008–2018. This lag structure ensures that variation in ED medication access precedes the observed divorce outcome.

To construct the state-year level ED medication measures, we impose several restrictions on the MarketScan sample. First, we focus on male enrollees because ED medications are prescribed almost exclusively to men in our data; claims for female enrollees are negligible and are excluded. Second, we restrict attention to individuals aged 50–64. Because the MarketScan Commercial Claims and Encounters database does not cover the Medicare population, and enrollees typically exit the database upon turning 65, we cannot reliably observe ED medication use among men aged 65 and older. Third, we require full-year enrollment in a given calendar year in order to construct annual measures of total effective days supplied and price per effective day that incorporate deductibles, copayments, and coinsurance. Approximately 13 percent of enrollee–years are excluded by this full-year coverage requirement.

For each year and enrollee with any ED medication purchase, we compute the total effective days of ED medication supplied, total patient payments (the sum of deductibles, copayments, and coinsurance), and total gross payments (patient out-of-pocket payments plus the insurer's liability). From these, we construct two enrollee-level price measures: the post-insurance price per effective day, defined as total patient payments divided by total effective days supplied, and the pre-insurance price per effective day, defined as total gross payments divided by total effective days supplied.

We then take the average of these measures at the state-year level, the level at which all price and quantity variables enter our analysis. Specifically, *lnday* is the log of the average effective days of ED medication supplied per eligible male enrollee with any ED medication purchase in a given state–year; *lnp* is the log of the average post-insurance price per effective day;[3] and *lnpreins* is the log of the average pre-insurance price per effective day. All monetary values are converted to real 2010 dollars using region-specific Consumer Price Index adjustments for the Midwest, Northeast, South, and West. Appendix Table B.1 summarizes the state–year price and quantity measures for ED medications and placebo medications. After constructing this state–year dataset, we merge it with the individual-level ACS sample.

Figures 3 and 4 illustrate time trends in ED medication utilization and prices among men aged 50–64. Figure 3 shows a pronounced increase in ED medication use over the sample period: average effective days supplied per enrollee rise steadily

[3] Some studies exclude deductibles when measuring patient prices; our results are very similar when deductibles are omitted.

through the mid-2010s, driven initially by branded products and, following their market entry, by a rapid expansion in generic use. As a result, total ED medication use continues to increase even as branded use declines in later years.

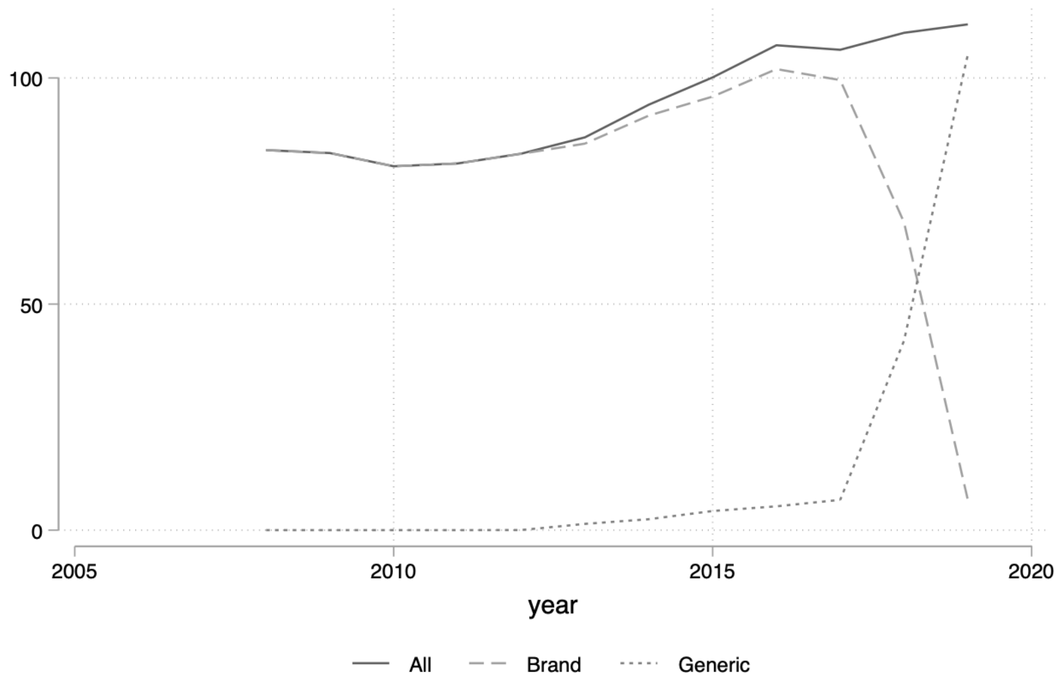


Figure 3: ED Medication Use Over Time

*Notes:* The figure plots annual trends in the average effective days of ED medication supplied per male enrollee aged 50–64. The solid line represents total ED medications, the dashed line represents branded ED medications, and the dotted line represents generic ED medications. Effective days supplied are calculated by aggregating days supplied across all ED prescriptions within an enrollee–year and then averaging across enrollees with any ED prescriptions. The sample includes only male enrollees who are continuously enrolled for all twelve months of the year.

Figure 4 plots the post-insurance price per effective day for branded and generic ED medications. Branded prices rise through the early 2010s and peak around the time generics enter the market, after which average post-insurance prices decline sharply. This decline coincides with the growing share of lower-priced generic ED medications.

## 2.3 Placebo Medications and Price–Quantity Relationships

To address the concern that ED medication purchases may proxy for general medication consumption or underlying health shocks correlated with divorce, we construct a set of placebo medications. These medications are selected based on

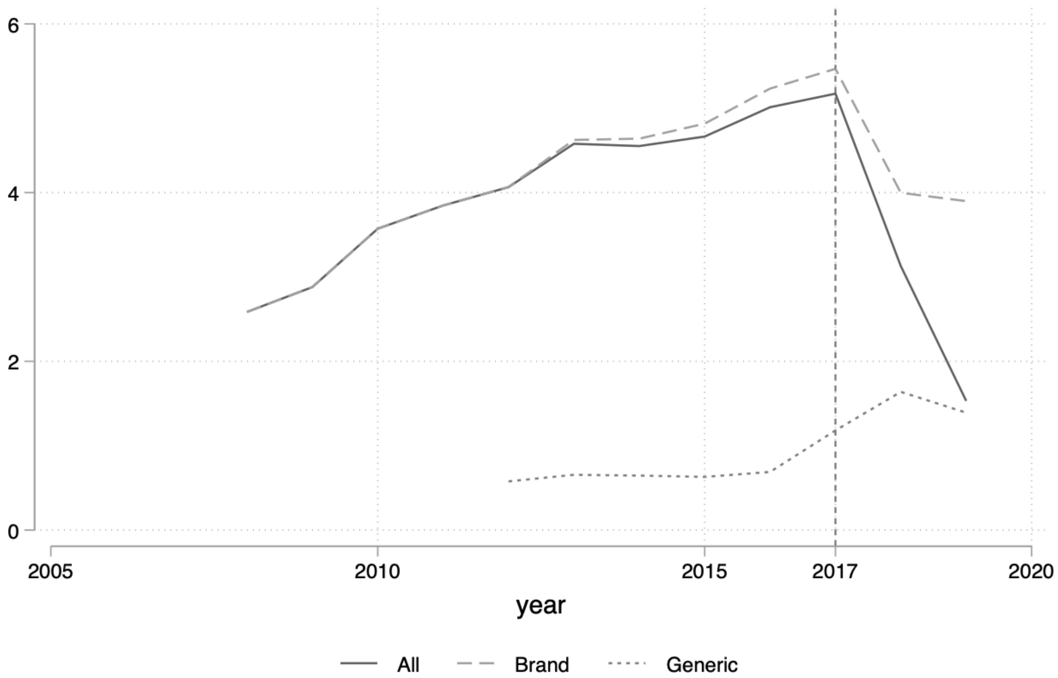


Figure 4: ED Medication Prices Over Time

*Notes:* The figure plots annual trends in the average post-insurance price per effective day of ED medication for male enrollees aged 50–64. The solid line represents all ED medications, the dashed line represents branded ED medications, and the dotted line represents generic ED medications. Post-insurance prices are defined as total patient out-of-pocket payments (deductibles, copayments, and coinsurance) divided by total effective days supplied, aggregated to the year level. The vertical dashed line marks the period surrounding the entry of generic ED medications. The sample includes only male enrollees who are continuously enrolled for all twelve months of the year. Prices are expressed in nominal dollars and are not adjusted for inflation.

two criteria: they are predominantly used by men, and they entered the market around the same period as Viagra's 1998 approval. This design helps ensure that any observed relationship between ED medication use and divorce is not simply capturing contemporaneous trends in male-specific medication use.

The first placebo medication class includes statins used to treat abnormal lipid levels. We focus on Atorvastatin (Lipitor), FDA-approved in 1996, which became one of the most widely prescribed statins due to its efficacy. Men generally exhibit less favorable cardiovascular risk factors than women—including higher rates of smoking and poorer dietary patterns—making statin use a plausible correlate of health status but not of divorce. Although numerous lipid-lowering medications exist (including over-the-counter supplements such as fish oil), we focus on Lipitor because its approval date and diffusion trajectory most closely align with Viagra's.

Our second set of placebo medications includes medications used to treat benign prostatic hyperplasia (BPH), a common condition among older men. Specifically, we examine Tamsulosin (Flomax), approved by the FDA in 1997, and Finasteride (Proscar), approved in 1992. Neither medication is expected to affect marital stability directly, but both are widely used by older men and exhibit adoption patterns similar to ED medications.

Together, these placebo medications provide a test for whether our findings reflect a mechanism unique to ED medication usage rather than general patterns of medication adoption or male health shocks.

As a validation of our empirical strategy, Table 1 reports state–year–level regressions relating log quantities to log prices for ED medications and placebo medications. All specifications include state and year fixed effects, so identification comes from within-state variation over time. Columns (1) and (2) show that ED medication utilization is strongly negatively related to both post-insurance and pre-insurance prices: a one-percent increase in prices is associated with roughly a 0.26–0.27 percent decline in effective days supplied. Columns (3)–(6) report analogous regressions for placebo medications. While utilization of atorvastatin and BPH medications also exhibits negative correlations with prices, the estimated elasticities are substantially smaller in magnitude and, in some cases, statistically weaker. These patterns are consistent with ED medications being more price-sensitive than medications treating chronic or medically necessary conditions.

Overall, the table documents a robust negative relationship between prices and utilization for ED medications, consistent with downward-sloping demand and providing empirical support for the use of price variation as a source of identifying variation in subsequent analyses.

Table 1: Price–Quantity Relationships for ED and Placebo Medications

| | ED Drugs | | Atorvastatin | | BPH | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | lnday | lnday | lnday | lnday | lnday | lnday |
| lnp | -0.262*** | | -0.045*** | | -0.101*** | |
| | (0.023) | | (0.012) | | (0.023) | |
| lnpreins | | -0.271*** | | -0.030** | | -0.029 |
| | | (0.056) | | (0.013) | | (0.018) |
| Obs. | 561 | 561 | 561 | 561 | 561 | 561 |
| Adj. R-sq | 0.817 | 0.751 | 0.690 | 0.679 | 0.583 | 0.555 |
| Mean Dep. Var. | 4.508 | 4.508 | 5.586 | 5.586 | 5.392 | 5.392 |

*Notes:* Each column reports state–year–level regressions of log effective days supplied on log pre-insurance prices (*lnpreins*) or log post-insurance prices (*lnp*). ED medications are compared with two placebo medication classes: atorvastatin and medications for benign prostatic hyperplasia (BPH). All specifications include state and year fixed effects. Robust standard errors are reported in parentheses.

# 3 Empirical Strategy

Our main empirical framework relates individual divorce outcomes in the ACS to lagged state-year measures of ED medication utilization and prices constructed from MarketScan. For an individual $i$ residing in state $s$ in year $t$, we estimate

$$Divorce_{ist} = \beta lnday_{s,t-1} + X'_{ist}\delta + Z'_{st}\theta + \mu_s + \gamma_t + \epsilon_{ist} \quad (1)$$

where $Divorce_{ist}$ equals 1000 if individual $i$ divorced within the previous 12 months, and 0 otherwise. Namely, an increase of 1 corresponds to one additional divorce per 1,000 at-risk individuals. We interpret $lnday_{s,t-1}$ as a proxy for ED medication utilization among men in state $s$ in year $(t-1)$. We also report reduced-form results replacing $lnday$ with the log post-insurance price ($lnp$) or the log pre-insurance price ($lnpreins$).

$X_{ist}$ is a vector of individual-level control variables, including race indicators (Black, Asian, and Other Non-White), Hispanic origin, educational attainment, indicators for the presence and number of co-resident children, and age fixed effects. $Z_{st}$ is a vector of state–year covariates, including log state GDP, the gender wage gap among workers aged 50–64, log monthly rent, the gender-specific employment rate, sex ratio, the shares of the population that are Hispanic, Black, Asian, Other race, or foreign-born, the share of adults with a college degree, and the share of sample individuals with employer- or union-sponsored insurance coverage. $\mu_s$ and

$\gamma_t$ denote state and year fixed effects, respectively.

The coefficient $\beta$ measures the effect of a 100 percent increase in ED medication use on the number of divorces per 1,000 at-risk individuals in the subsequent year.

We use lagged values of ED medication utilization because the divorce outcome in the ACS refers to events that occurred in the 12 months prior to the survey, while our ED utilization variables are defined at the calendar-year level. Using lagged state–year utilization aligns the timing of the explanatory variables more closely with the period during which the divorce could have occurred. For the same reason, we also lag all state–year control variables.

A key concern is that $lnday_{s,t-1}$ may be endogenous. For example, unobserved state-level shocks that affect marital stability could also affect demand for ED medications, or ED utilization may proxy for broader health or income changes. To address this concern, we use the price of ED medications as an instrument for effective ED medication days dispensed.

Our instrumental variable strategy exploits plausibly exogenous variation in the price of ED medications across states and over time. The price per effective day is the relevant margin for enrollee behavior, as it directly determines out-of-pocket costs at the point of purchase. Conditional on state and year fixed effects and a rich set of individual and state–year covariates, we argue that residual shocks to these prices are primarily driven by supply-side factors in the health care and insurance markets, such as regional bargaining between pharmacy benefit managers and manufacturers, differences in formulary placement and tiering across insurers, and variation in local market concentration among payers and providers. These institutional features are not obviously related to short-run changes in marital stability within a given state.

# 4 Main Results

## 4.1 Baseline OLS Results of ED Medication Use on Divorce

Table 2 reports the OLS results of equation (1). The outcome is an indicator for divorce in the prior 12 months, multiplied by 1,000. The key regressor is the lagged log effective days of ED medication supplied per enrollee. Columns (1)–(4) report specifications that include state, year, and age fixed effects but without additional controls, while Columns (5)–(8) add the full set of individual-level and state–year controls described in Section 2.1.

The estimated coefficients on $lnday_{s,t-1}$ are positive and significant for men,

Table 2: OLS: ED Medication Use and Divorce

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = Divorced | Male (1) | Female (2) | Male (3) | Female (4) | Male (5) | Female (6) | Male (7) | Female (8) |
| L1.lnday | 1.826*** | -0.260 | 2.882*** | -0.751 | 1.828*** | -0.411 | 2.692*** | -0.973 |
| | (0.520) | (0.638) | (0.795) | (0.903) | (0.511) | (0.626) | (0.785) | (0.891) |
| # of Children in HH | | | | | -2.818*** | -2.649*** | -2.251*** | -2.415*** |
| | | | | | (0.087) | (0.120) | (0.095) | (0.126) |
| Any Child in HH | | | | | -5.072*** | 1.712*** | -8.471*** | 0.418* |
| | | | | | (0.156) | (0.211) | (0.215) | (0.247) |
| Grade 12 | | | | | -0.404*** | -0.701*** | -0.405* | -0.545** |
| | | | | | (0.156) | (0.158) | (0.242) | (0.236) |
| Some College | | | | | -0.804*** | -0.174 | -0.555* | 0.215 |
| | | | | | (0.183) | (0.197) | (0.294) | (0.281) |
| College+ | | | | | -2.888*** | -2.211*** | -3.146*** | -2.430*** |
| | | | | | (0.161) | (0.172) | (0.256) | (0.246) |
| Hispanic | | | | | 2.013*** | 2.478*** | 2.061*** | 1.949*** |
| | | | | | (0.296) | (0.331) | (0.382) | (0.410) |
| Black | | | | | 8.977*** | 11.625*** | 10.480*** | 12.687*** |
| | | | | | (0.303) | (0.301) | (0.437) | (0.383) |
| Asian | | | | | 0.546** | 0.447 | 0.026 | -0.181 |
| | | | | | (0.264) | (0.279) | (0.352) | (0.380) |
| Other Non-White | | | | | 3.493*** | 3.658*** | 3.510*** | 3.652*** |
| | | | | | (0.351) | (0.378) | (0.430) | (0.480) |
| Foreign-Born | | | | | -0.541*** | -0.644*** | -1.278*** | -1.087*** |
| | | | | | (0.184) | (0.225) | (0.296) | (0.316) |
| L1.Share w. Emp. Ins. | | | | | 3.595 | -2.105 | 0.956 | 3.838 |
| | | | | | (4.794) | (5.368) | (7.362) | (6.953) |
| L1.State GDP | | | | | 1.172 | 0.319 | 0.421 | 0.737 |
| | | | | | (2.670) | (2.751) | (4.071) | (3.841) |
| L1.ln(Pop) | | | | | 0.752 | -8.310** | 4.605 | -11.600* |
| | | | | | (3.990) | (4.122) | (6.063) | (6.048) |
| L1.Sex Ratio | | | | | 0.139 | -0.095 | 0.059 | -0.201 |
| | | | | | (0.110) | (0.117) | (0.170) | (0.161) |
| L1.Hispanic Share | | | | | -7.078 | -6.651 | -6.020 | -8.150 |
| | | | | | (17.649) | (17.515) | (28.072) | (25.397) |
| L1.Black Share | | | | | 28.438 | 26.554 | 58.039** | 30.800 |
| | | | | | (19.988) | (24.080) | (29.172) | (34.494) |
| L1.Asian Share | | | | | -27.581 | -57.166** | -52.289 | -72.158* |
| | | | | | (23.174) | (28.723) | (34.872) | (42.646) |
| L1.Other NW Share | | | | | 9.092 | 16.161* | 19.496 | 23.788** |
| | | | | | (7.914) | (8.755) | (12.269) | (11.794) |
| L1.Some College Share | | | | | 16.050 | 9.179 | 20.985 | 19.284 |
| | | | | | (10.596) | (10.483) | (16.176) | (15.171) |
| L1.Foreign-Born Share | | | | | 42.983** | -5.647 | 43.582 | -13.422 |
| | | | | | (17.332) | (22.503) | (27.901) | (30.512) |
| L1.Male Emp Rate | | | | | -3.836 | -7.321 | 1.282 | -6.591 |
| | | | | | (8.666) | (9.141) | (14.040) | (12.716) |
| L1.Female Emp Rate | | | | | -7.173 | 3.893 | -1.798 | 0.477 |
| | | | | | (10.149) | (10.820) | (15.193) | (15.008) |
| L1.Gender Wage Gap | | | | | 2.416 | 0.051 | 4.143* | -0.294 |
| | | | | | (1.613) | (1.636) | (2.355) | (2.270) |
| L1.ln(MonthlyRent) | | | | | -0.958 | 2.086 | -1.937 | 0.247 |
| | | | | | (2.988) | (3.063) | (4.459) | (4.477) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Adj. R-sq | 0.002 | 0.002 | 0.001 | 0.001 | 0.005 | 0.003 | 0.005 | 0.002 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. Controls are described in Section 2.1. "L1.Share w. Emp. Ins." denotes the lagged share of the sample with employer- or union-sponsored insurance at the state–year level, and "L1.Gender Wage Gap" denotes the lagged gender wage gap among individuals aged 50–64. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

robust to adding individual and state-year controls. For men aged 50–64, the coefficient on $lnday_{s,t-1}$ is approximately 2.7 in Column (7). Interpreting this magnitude, a 20 percent increase in ED usage—roughly a one-standard-deviation change—is associated with an increase in the male divorce rate of about 0.54 divorces per 1,000 men, or around 4 percent of the mean divorce rate.

The control variables enter with signs that are broadly consistent with demographic correlates of divorce. Educational attainment exhibits a clear gradient: relative to individuals without a high school degree, those with more schooling generally show lower divorce rates. Racial and ethnic indicators display sizable associations, with Black, Hispanic, and Other Non-White individuals experiencing higher divorce propensities. Foreign-born individuals have lower divorce rates.

The state-level controls generally exhibit heterogeneous and often imprecisely estimated relationships with divorce once individual characteristics are accounted for. Broad economic indicators—such as lagged state GDP and housing market conditions (proxied by log rent)—do not display consistent or robust associations across specifications. Demographic composition measures also yield mixed results: while most racial and ethnic population shares are imprecisely estimated, higher Black population shares are positively associated with divorce for men aged 50–64 in some specifications, whereas higher Asian population shares are negatively associated with divorce among women. Labor market conditions show limited explanatory power overall, with male and female employment rates rarely statistically significant. The gender wage gap among workers aged 50–64 is positively associated with male divorce rates in one specification but otherwise imprecisely estimated. Finally, the share of the population aged 50–64 covered by employer- or union-sponsored insurance is not robustly related to divorce outcomes. Overall, these patterns suggest that state-level covariates play a limited and unstable role once richer individual-level controls and fixed effects are included.

The reduced-form results using log post-insurance and pre-insurance prices are consistent with those using the log effective days. As shown in Table 3, both price coefficients are negative for men, indicating that higher prices are associated with lower male divorce rates. This pattern aligns with the earlier finding in Table 2 that a reduction in ED medication usage—potentially induced by higher prices—is linked to lower divorce rates among men.

For women aged 50–64, estimates are small and statistically insignificant. We return to this apparent gender heterogeneity in Section 5.1 and show it is largely due to exposure mismeasurement.

Table 3: OLS: ED Medication Prices and Divorce

| | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = Divorced | Male (1) | Female (2) | Male (3) | Female (4) | Male (5) | Female (6) | Male (7) | Female (8) |
| L1.lnp | -0.652*** | 0.023 | -0.835** | 0.011 | -0.717*** | 0.115 | -0.781** | 0.108 |
| | (0.236) | (0.293) | (0.387) | (0.392) | (0.249) | (0.289) | (0.389) | (0.400) |
| L1.lnpreins | -1.104*** | -0.263 | -2.364*** | -0.331 | -1.660*** | 0.219 | -3.038*** | 0.336 |
| | (0.394) | (0.466) | (0.582) | (0.596) | (0.415) | (0.464) | (0.619) | (0.628) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: Each row represents a separate regression. The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average post- or pre-insurance price per effective day. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

## 4.2 Instrumental Variables Results

Table 4 reports instrumental variables results in which we instrument the lagged log effective days of ED medication supplied per enrollee with the lagged log post-insurance price per effective day. Across all specifications, first-stage F-statistics are far above conventional thresholds, indicating a very strong relationship between prices and ED medication use.

For men, the IV estimates are positive and statistically significant across age groups. Focusing on our preferred specification with controls for men aged 50–64 (Column (7)), the estimated coefficient implies that a 20 percent increase in ED medication use is associated with an increase of approximately 0.51 divorces per 1,000 at-risk individuals. This corresponds to roughly 4 percent of the mean divorce rate for this group. The magnitude is very close to the corresponding OLS estimate, suggesting that endogeneity bias is limited. In contrast, the IV estimates for women in the same age ranges (Columns (2), (4), (6), and (8)) are small, imprecisely estimated, and statistically indistinguishable from zero. We return to this apparent gender heterogeneity in Section 5.1.

Appendix Table B.5 reports analogous estimates using the pre-insurance price proxy as the instrument. These specifications typically yield larger point estimates and smaller first-stage F-statistics, which is consistent with the idea that effective days supplied are more directly determined by post-insurance prices, which are the prices faced by enrollees. We therefore emphasize the `lnp`-based instruments in the following analyses.

Overall, the IV results are consistent with the baseline OLS findings and reinforce the interpretation that increased ED medication use raises divorce risk

Table 4: IV: ED Medication Use and Divorce

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = Divorced | Male (1) | Female (2) | Male (3) | Female (4) | Male (5) | Female (6) | Male (7) | Female (8) |
| L1.lnday | 2.302*** | -0.081 | 2.925** | -0.038 | 2.370*** | -0.382 | 2.552** | -0.354 |
| | (0.803) | (1.034) | (1.320) | (1.376) | (0.804) | (0.956) | (1.245) | (1.309) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 231.473 | 230.978 | 232.910 | 232.808 | 262.157 | 260.562 | 269.686 | 266.635 |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. We use the lagged log of the average post-insurance price per effective day as the Instrumental Variable. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

among older men.

# 5 Extensions and Mechanisms

## 5.1 Gender Differences and Exposure Mismeasurement

Although divorce is a joint outcome, we find robust effects of ED medication use on divorce rates for men aged 50–64 (and 50 and above), but no corresponding effects for women of the same age range. At first glance, this gender heterogeneity may appear puzzling, since a divorce for a man must mechanically involve a divorce for a woman. However, this comparison implicitly assumes that women grouped by their own age are similarly exposed to ED medication use by men of the same age range, an assumption that need not hold in practice.

First, exposure to ED medication use can be more concentrated among older men than among the spouses of women of the same age range. Only a subset of older women are married to men of the treated age range and thus plausibly respond to ED medication use. Data also suggest that many wives of treated men are younger than 50 and thus excluded from the female subsample. As a result, a nontrivial fraction of divorces involving older men is mechanically excluded from divorces of women aged 50 and above, weakening the correspondence between older men's ED medication exposure and women's observed divorce outcomes.

A second source of attenuation is geographic mismeasurement. For women not co-residing with their husbands, we observe ED medication use only in the woman's state of residence, while the relevant exposure is ED medication use in the husband's residential state. Consequently, even though each divorce involves one man and one woman, female exposure defined solely by women's own location dilutes the relevant exposure, attenuating estimated effects toward zero.

To assess the importance of these measurement issues, we use the CPS to construct a transition-based divorce measure and recover spouse age information unavailable in the ACS. Exploiting the CPS rotating panel, we link individuals over time and define a respondent as "at risk" if they are observed as married at least once early in a 12-month window implied by the rotation design. We record a divorce when the same individual is subsequently observed transitioning from married to divorced within that window. Further details are provided in Appendix Section A. This definition is intentionally conservative and yields divorce rates that are mechanically lower than those in the ACS, because divorce-related moves often prevent observing respondents both before and after divorce.

Table 5 replicates our main ACS results using the CPS data. Consistent with the ACS findings, increases in ED medication use are associated with higher divorce rates among men aged 50–64 and among men aged 50 and above. Across OLS and IV specifications, the estimated effects for men are positive and statistically significant, with magnitudes larger than those in the ACS.

Importantly, the qualitative pattern is unchanged: ED medication use is associated with higher divorce risk among older men. In contrast, when women are grouped solely by their own age, we find no statistically meaningful relationship between ED medication use and divorce. For women, the estimated coefficients are small, imprecise, and unstable across specifications. This mirrors the ACS results and indicates that the estimated female effects are substantially attenuated when using women's own age and location.

We then address the mismeasurement concern by restricting the female sample to women married to men in the treated age groups, without conditioning on women's own age. A limitation of this analysis is that the spouse or ex-spouse's age can be recovered only if the couple is observed living together at least once prior to divorce. Many individuals who eventually divorce, however, are observed as separated or spouse-absent throughout their CPS observation window. As a result, conditioning on spouse age selects couples that co-resided before divorce and mechanically yields lower divorce rates, since continuously married couples are more likely to be observed cohabiting, whereas only a subset of eventually divorced couples meet this criterion. We acknowledge this limitation and interpret the results accordingly.

Table 6 shows the results. When we condition on women being married to men aged 50–64 or to men aged 50 and above, the relationship between ED medication

Table 5: CPS: ED Medication Use and Divorce

| Dep. Var. = Divorce | OLS (1) | OLS (2) | OLS (3) | OLS (4) | OLS (5) | OLS (6) | IV (7) | IV (8) | IV (9) | IV (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Panel A: Age 50-64 & Male** | | | | | | | | | | |
| L1.lnday | 8.799*** | 8.171*** | | | | | 14.984*** | 12.763*** | 10.866** | 8.542* |
| | (2.580) | (2.506) | | | | | (3.846) | (3.728) | (4.991) | (4.394) |
| L1.lnp | | | -4.174*** | -3.831*** | | | | | | |
| | | | (1.072) | (1.117) | | | | | | |
| L1.lnpreins | | | | | -3.898** | -3.800* | | | | |
| | | | | | (1.828) | (2.022) | | | | |
| Controls | - | Y | - | Y | - | Y | - | Y | - | Y |
| Fstat | | | | | | | 224.935 | 264.152 | 86.674 | 115.841 |
| Obs. | 162,508 | 162,508 | 162,508 | 162,508 | 162,508 | 162,508 | 162,508 | 162,508 | 162,508 | 162,508 |
| Mean Dep. Var. | 7.451 | 7.451 | 7.451 | 7.451 | 7.451 | 7.451 | 7.451 | 7.451 | 7.451 | 7.451 |
| **Panel B: Age 50 and above & Male** | | | | | | | | | | |
| L1.lnday | 4.226** | 3.461* | | | | | 9.139*** | 6.883** | 4.488 | 2.258 |
| | (1.816) | (1.816) | | | | | (2.777) | (2.710) | (3.626) | (3.192) |
| L1.lnp | | | -2.547*** | -2.058** | | | | | | |
| | | | (0.774) | (0.811) | | | | | | |
| L1.lnpreins | | | | | -1.624 | -1.004 | | | | |
| | | | | | (1.330) | (1.443) | | | | |
| Controls | - | Y | - | Y | - | Y | - | Y | - | Y |
| Fstat | | | | | | | 226.438 | 261.586 | 88.238 | 116.001 |
| Obs. | 280,022 | 280,022 | 280,022 | 280,022 | 280,022 | 280,022 | 280,022 | 280,022 | 280,022 | 280,022 |
| Mean Dep. Var. | 6.080 | 6.080 | 6.080 | 6.080 | 6.080 | 6.080 | 6.080 | 6.080 | 6.080 | 6.080 |
| **Panel C: Age 50-64 & Female** | | | | | | | | | | |
| L1.lnday | -2.120 | -1.503 | | | | | -2.734 | -0.962 | 2.525 | 1.517 |
| | (2.558) | (2.515) | | | | | (4.256) | (4.011) | (5.543) | (4.406) |
| L1.lnp | | | 0.764 | 0.289 | | | | | | |
| | | | (1.186) | (1.202) | | | | | | |
| L1.lnpreins | | | | | -0.916 | -0.677 | | | | |
| | | | | | (2.005) | (1.969) | | | | |
| Controls | - | Y | - | Y | - | Y | - | Y | - | Y |
| Fstat | | | | | | | 228.556 | 261.215 | 89.173 | 117.040 |
| Obs. | 163,535 | 163,535 | 163,535 | 163,535 | 163,535 | 163,535 | 163,535 | 163,535 | 163,535 | 163,535 |
| Mean Dep. Var. | 8.390 | 8.390 | 8.390 | 8.390 | 8.390 | 8.390 | 8.390 | 8.390 | 8.390 | 8.390 |
| **Panel D: Age 50 and above & Female** | | | | | | | | | | |
| L1.lnday | 0.075 | 0.244 | | | | | 0.034 | 0.034 | 1.738 | 0.420 |
| | (1.949) | (1.944) | | | | | (3.333) | (3.095) | (4.432) | (3.511) |
| L1.lnp | | | -0.009 | -0.010 | | | | | | |
| | | | (0.927) | (0.922) | | | | | | |
| L1.lnpreins | | | | | -0.635 | -0.188 | | | | |
| | | | | | (1.621) | (1.570) | | | | |
| Controls | - | Y | - | Y | - | Y | - | Y | - | Y |
| Fstat | | | | | | | 226.700 | 258.220 | 90.559 | 117.970 |
| Obs. | 260,353 | 260,353 | 260,353 | 260,353 | 260,353 | 260,353 | 260,353 | 260,353 | 260,353 | 260,353 |
| Mean Dep. Var. | 6.815 | 6.815 | 6.815 | 6.815 | 6.815 | 6.815 | 6.815 | 6.815 | 6.815 | 6.815 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. Controls are described in Section 2.1. Age, state, year, and month fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

use and divorce becomes positive and statistically significant. Both OLS and IV estimates indicate that higher ED medication use among older men is associated with a higher probability of divorce for their wives as well, despite substantially lower mean divorce rates in these spouse-conditioned samples due to the data limitations discussed above.

Table 6: CPS: Effects on Divorce Among Women Married to Treated Men

| Dep. Var. = Divorce | OLS (1) | OLS (2) | OLS (3) | OLS (4) | OLS (5) | OLS (6) | IV (7) | IV (8) | IV (9) | IV (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| **Panel A: Female married to men aged 50-64** | | | | | | | | | | |
| L1.lnday | 4.539** | 4.907** | | | | | 5.008 | 6.078* | 9.006** | 6.291* |
| | (2.130) | (1.993) | | | | | (3.325) | (3.192) | (4.313) | (3.776) |
| L1.lnp | | | -1.396 | -1.820* | | | | | | |
| | | | (0.928) | (0.950) | | | | | | |
| L1.lnpreins | | | | | -3.254** | -2.815 | | | | |
| | | | | | (1.569) | (1.727) | | | | |
| Controls | - | Y | - | Y | - | Y | - | Y | - | Y |
| Fstat | | | | | | | 228.438 | 260.802 | 88.605 | 118.192 |
| Obs. | 153,553 | 153,553 | 153,553 | 153,553 | 153,553 | 153,553 | 153,553 | 153,553 | 153,553 | 153,553 |
| Mean Dep. Var. | 3.836 | 3.836 | 3.836 | 3.836 | 3.836 | 3.836 | 3.836 | 3.836 | 3.836 | 3.836 |
| **Panel B: Female married to men aged 50 and above** | | | | | | | | | | |
| L1.lnday | 4.070*** | 4.469*** | | | | | 4.442* | 5.293** | 7.173** | 5.473** |
| | (1.505) | (1.404) | | | | | (2.285) | (2.097) | (3.267) | (2.754) |
| L1.lnp | | | -1.238* | -1.578** | | | | | | |
| | | | (0.641) | (0.627) | | | | | | |
| L1.lnpreins | | | | | -2.614** | -2.446* | | | | |
| | | | | | (1.211) | (1.277) | | | | |
| Controls | - | Y | - | Y | - | Y | - | Y | - | Y |
| Fstat | | | | | | | 227.422 | 256.921 | 89.749 | 118.215 |
| Obs. | 266,369 | 266,369 | 266,369 | 266,369 | 266,369 | 266,369 | 266,369 | 266,369 | 266,369 | 266,369 |
| Mean Dep. Var. | 3.065 | 3.065 | 3.065 | 3.065 | 3.065 | 3.065 | 3.065 | 3.065 | 3.065 | 3.065 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. Controls are described in Section 2.1. Age, state, year, and month fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Taken together, these results indicate that the apparent gender heterogeneity in the ACS largely reflects measurement limitations. Using women's own age and location to construct exposures of ED medication use by their spouses introduces measurement error, which substantially attenuates the estimated effects. Once spouse age and location are observed and accounted for, the effects of ED medication use on divorce are evident for both spouses.

## 5.2 Intensive vs. Extensive Margin of ED Medication Use

So far, our baseline analysis uses the *intensive margin* of ED medication use—the average effective days supplied per (male) enrollee with any ED claims—which captures how much ED medication is consumed among users. As a complementary exercise, we also examine an *extensive-margin* measure defined as the fraction of enrolled men aged 50–64 who make ED medication purchases in amounts exceeding a threshold in a given state–year. Specifically, we construct "ED purchase rates" based on thresholds of at least $N$ total days supplied in a year (with $N \in \{30, 60, 90\}$)[4], and use the lagged log purchase rate as the regressor of interest. This alternative measure is motivated by the possibility that ED medication use affects marital stability not only through treatment intensity among users, but also through the size of the treated population.

The extensive- and intensive-margin measures are positively correlated at the state–year level, indicating that states with higher average days supplied per enrollee tend to also have a higher fraction of enrollees with any ED purchases. Nevertheless, the extensive-margin regressions yield a qualitatively different pattern from the intensive-margin results. In OLS specifications (Tables 7), the estimated coefficients on the extensive-margin measure are substantially noisier and not statistically distinguishable from zero. In other words, while we consistently find that higher *intensity* of ED medication use among older men leads to higher divorce risk, we do not find robust evidence that variation in the *share* of men purchasing ED medication affects divorce in the same way.[5]

Table 7: OLS: ED Purchase Rate

| | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.ED_Frac30 | -2.361 | -2.098 | -10.112 | -4.745 | 0.757 | -0.389 | -3.966 | 0.754 |
| | (5.419) | (6.312) | (8.269) | (8.794) | (5.314) | (6.314) | (8.148) | (8.954) |
| L1.ED_Frac60 | -0.423 | -1.664 | -10.440 | -4.875 | 3.923 | 0.273 | -1.958 | 2.042 |
| | (7.245) | (8.667) | (11.002) | (12.143) | (6.947) | (8.668) | (10.697) | (12.333) |
| L1.ED_Frac90 | -0.060 | -2.307 | -11.395 | -5.999 | 5.717 | -0.261 | -0.162 | 2.161 |
| | (8.888) | (10.839) | (13.510) | (15.322) | (8.478) | (10.865) | (13.071) | (15.539) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Adj. R-sq | 0.002 | 0.002 | 0.001 | 0.001 | 0.005 | 0.003 | 0.005 | 0.002 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: The dependent variable is an indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variables of interest are lagged log ED purchase rates, defined as the fraction of male enrollees aged 50–64 in a given state–year whose total ED medication days supplied exceed 30, 60, or 90 days, respectively. Each row corresponds to a different purchase threshold. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all specifications. Standard errors in parentheses are clustered at the state–year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

[4] We choose thresholds of 30, 60, and 90 days because the distribution of annual total days supplied exhibits clear mass points at these values. These spikes likely reflect common prescription sizes (e.g., roughly monthly refills), so these cutoffs provide natural definitions of "meaningful" annual use.

[5] We also examine an alternative measure based on effective days supplied per enrollee, including individuals with and without ED claims. This measure is likewise subject to the same offsetting-forces concern described below and yields qualitatively similar results.

Table 8: IV: ED Purchase Rate

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = Divorced | Male (1) | Female (2) | Male (3) | Female (4) | Male (5) | Female (6) | Male (7) | Female (8) |
| L1.ED_Frac30 | 30.322** | -1.064 | 38.482* | -0.495 | 30.809*** | -2.785 | 38.326** | -2.747 |
| | (13.269) | (13.636) | (21.119) | (18.102) | (11.418) | (13.008) | (17.986) | (17.740) |
| Fstat | 33.279 | 33.743 | 32.038 | 32.728 | 61.655 | 62.150 | 60.321 | 61.041 |
| L1.ED_Frac60 | 37.146** | -1.305 | 47.019* | -0.606 | 38.007*** | -3.438 | 47.162** | -3.385 |
| | (15.771) | (16.714) | (25.211) | (22.146) | (13.846) | (16.052) | (21.870) | (21.853) |
| Fstat | 41.631 | 42.115 | 40.521 | 41.206 | 74.495 | 74.960 | 73.625 | 74.187 |
| L1.ED_Frac90 | 44.748** | -1.572 | 56.613* | -0.730 | 45.959*** | -4.158 | 57.012** | -4.094 |
| | (18.781) | (20.141) | (30.127) | (26.681) | (16.649) | (19.415) | (26.376) | (26.430) |
| Fstat | 44.193 | 44.630 | 43.310 | 43.898 | 76.359 | 76.777 | 75.829 | 76.252 |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: The dependent variable is an indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variables of interest are lagged log ED purchase rates, defined as the fraction of male enrollees aged 50–64 in a given state–year whose total ED medication days supplied exceed 30, 60, or 90 days, respectively. We instrument the lagged log purchase rates with the lagged log average post-insurance price per effective day of ED medication. Each row corresponds to a different purchase threshold. First-stage F-statistics are reported below each coefficient. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all specifications. Standard errors in parentheses are clustered at the state–year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

This contrast is consistent with reverse causality and selection operating more strongly at the extensive margin. In particular, decisions to initiate ED medication use may respond to marital conditions rather than cause them. Men in unstable or dissolving marriages may be less likely to begin ED treatment—due to reduced sexual activity, lower expected returns to treatment, or disruptions in insurance coverage—while men in stable marriages may be more likely to initiate use. This behavioral response can induce a negative correlation between the ED purchase rate and divorce, biasing OLS estimates toward zero. Such reverse causality is likely to be more pronounced for the extensive margin, which captures treatment initiation, than for the intensive margin, which reflects usage intensity among established users.

Another potential explanation is that the extensive-margin variable is not a pure measure of treatment intensity. At the state–year level, the fraction of men with any ED medication purchases reflects not only access to and utilization of ED medications, but also the underlying prevalence of ED-related problems in the insured population. If men with ED issues have fewer outside options and are therefore less likely to engage in behaviors that destabilize marriage (e.g., infidelity), a higher prevalence of ED can be mechanically associated with *lower* divorce risk. As a result, the extensive-margin measure may combine two opposing forces: (i) a positive effect of ED medication use on divorce among treated men, and (ii) a negative association between the prevalence of ED issues and divorce. These offsetting channels can attenuate the extensive-margin coefficient toward zero even when the intensive margin shows a strong and precisely estimated effect.

The IV results shown in Table 8 are mechanically similar to those obtained using the intensive-margin measure. Reduced-form estimates show that ED medication prices are negatively correlated with divorce, and prices are in turn strongly negatively correlated with both intensive- and extensive-margin measures of ED medication use. As a result, when prices are used as instruments, the IV estimates are mechanically expected to be positive and statistically significant for both margins.

Importantly, under the maintained assumption that prices provide plausibly exogenous variation in ED medication access, the IV estimates address both reverse causality and the offsetting-forces problem inherent in the extensive-margin OLS specifications. The positive and significant IV coefficients therefore suggest that increased ED medication use—whether through higher usage intensity or a larger treated population—raises divorce risk, and that the insignificant OLS results at the extensive margin reflect attenuation from endogenous treatment initiation rather than the absence of a true effect.

## 5.3 Timing and Persistence of Effects

We examine the timing and persistence of the effects by allowing ED medication use to enter the regressions with multiple lags. Studying lagged effects is important for two reasons. First, divorce is often the culmination of a prolonged process rather than an immediate response to contemporaneous shocks; changes in sexual functioning or relationship quality induced by ED medication use may take time to translate into formal marital dissolution. Second, examining dynamics helps distinguish between short-run timing effects—such as the acceleration of divorces among couples already at risk—and longer-run changes in marital stability.

We consider specifications that include one- to three-year lags of ED medication use jointly, as well as specifications that estimate each lag separately. Results using post-insurance prices as instruments are reported in Tables 9 and 10, with additional specifications using pre-insurance prices as instruments shown in Appendix Tables B.6 and B.7. The results display very similar patterns across instrument choices.

When lags are included jointly, the estimated effects are concentrated at short horizons. Across specifications, the one-year lag of ED usage is consistently positive and statistically significant for men, while coefficients on longer lags are smaller and generally imprecisely estimated. This pattern holds for both age groups (men aged 50 and above, and men aged 50–64) and is robust to the inclusion of controls.

Table 9: IV: ED Medication Use with 1–3 Year Lags

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.lnday | 2.767** | -0.677 | 3.030 | -0.223 | 3.261*** | -0.429 | 3.362* | -0.054 |
| | (1.150) | (1.312) | (1.966) | (1.760) | (1.196) | (1.317) | (1.923) | (1.786) |
| L2.lnday | -1.508 | -1.126 | -0.552 | -2.953 | -1.245 | -1.268 | -0.526 | -3.236 |
| | (1.381) | (1.528) | (2.170) | (2.154) | (1.369) | (1.508) | (2.114) | (2.071) |
| L3.lnday | -0.135 | 0.941 | -1.730 | 1.481 | -0.417 | 0.789 | -1.881 | 1.419 |
| | (1.251) | (1.312) | (2.087) | (1.894) | (1.198) | (1.226) | (1.966) | (1.754) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 42.063 | 41.690 | 42.200 | 42.464 | 41.795 | 41.537 | 41.385 | 41.790 |
| Obs. | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 |
| Mean Dep. Var. | 8.933 | 9.062 | 12.218 | 11.631 | 8.933 | 9.062 | 12.218 | 11.631 |

*Notes*: The dependent variable of interest is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variables of interest are the log of the average effective days lagged for 1, 2, and 3 years, instrumented by the average post-insurance price per effective day lagged for 1, 2, and 3 years. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

When lags are estimated separately, the one-year lag again exhibits the strongest and most stable association with divorce for men, whereas two- and three-year lags are not robustly different from zero. Although IV specifications using pre-insurance prices show suggestive effects at the two-year lag, these estimates are smaller in magnitude, less precisely estimated, and not robust across instrument choices.

Overall, these results suggest that changes in ED medication use affect divorce outcomes relatively quickly—within one to two years—consistent with ED medications influencing the timing of divorce among couples already close to marital dissolution rather than generating persistent long-run changes in marital stability.

# 6 Robustness and Falsification Tests

## 6.1 Placebo Medications

To assess whether our results capture general patterns of medication use or unobserved secular trends rather than the specific effects of ED medications, we repeat

Table 10: IV: ED Medication Use by Lag Length

| | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.lnday | 2.302*** | -0.081 | 2.925** | -0.038 | 2.370*** | -0.382 | 2.552** | -0.354 |
| | (0.803) | (1.034) | (1.320) | (1.376) | (0.804) | (0.956) | (1.245) | (1.309) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 231.473 | 230.978 | 232.910 | 232.808 | 262.157 | 260.562 | 269.686 | 266.635 |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |
| L2.lnday | 1.031 | -0.151 | 1.883 | -1.221 | 1.115 | -0.369 | 1.524 | -1.336 |
| | (0.907) | (1.092) | (1.491) | (1.422) | (0.944) | (1.058) | (1.476) | (1.384) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 200.797 | 200.573 | 203.946 | 203.765 | 228.741 | 227.667 | 236.178 | 233.866 |
| Obs. | 4,243,997 | 3,995,928 | 2,340,939 | 2,400,676 | 4,243,997 | 3,995,928 | 2,340,939 | 2,400,676 |
| Mean Dep. Var. | 8.921 | 9.064 | 12.199 | 11.628 | 8.921 | 9.064 | 12.199 | 11.628 |
| L3.lnday | 0.148 | -0.090 | -0.689 | -0.535 | 0.223 | -0.222 | -0.701 | -0.710 |
| | (0.959) | (1.140) | (1.677) | (1.605) | (0.986) | (1.086) | (1.613) | (1.533) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 181.798 | 181.340 | 183.022 | 183.139 | 238.248 | 237.554 | 242.069 | 241.486 |
| Obs. | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 |
| Mean Dep. Var. | 8.933 | 9.062 | 12.218 | 11.631 | 8.933 | 9.062 | 12.218 | 11.631 |

*Notes*: Each row represents a separate regression. The dependent variable of interest is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the log of the average effective days lagged for 1, 2, or 3 years, instrumented by the log of the average pre-insurance price per effective day lagged for 1, 2, or 3 years. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

our analysis using Atorvastatin and BPH medications as placebo treatments. Tables 11 and 12 report OLS and IV estimates for these medications. In most OLS specifications, the coefficients are small and statistically insignificant. The only exception is that the coefficient on the pre-insurance price of BPH medications is occasionally significant. However, this result is not robust to alternative control specifications and disappears in the IV estimates.

For the IV results, the first-stage relationships between price and quantity are weaker than in the corresponding ED medication analyses, and the coefficients are less precisely estimated. The first stages using pre-insurance prices as instruments are even weaker and thus are not shown. Overall, we find no evidence that placebo medication use affects divorce outcomes.

Table 11: OLS: Placebo

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| **Panel A: Atorvastatin** | | | | | | | | |
| L1.lnday_Ato | 0.424 | 0.080 | -0.620 | -0.388 | 1.349 | 0.781 | 0.351 | 0.625 |
| | (1.842) | (1.604) | (2.881) | (2.362) | (1.847) | (1.739) | (2.896) | (2.586) |
| L1.lnp_Ato | 0.202 | -0.197 | 0.457 | -0.268 | 0.094 | -0.504 | 0.237 | -0.661 |
| | (0.333) | (0.365) | (0.541) | (0.464) | (0.347) | (0.362) | (0.547) | (0.474) |
| L1.lnpreins_Ato | 0.396 | -0.182 | 0.835 | -0.357 | 0.294 | 0.047 | 0.620 | -0.045 |
| | (0.299) | (0.338) | (0.510) | (0.467) | (0.310) | (0.345) | (0.533) | (0.464) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |
| **Panel B: BPH** | | | | | | | | |
| L1.lnday_BPH | 1.676 | -0.296 | 2.968 | -0.766 | 1.641 | -0.669 | 2.654 | -1.427 |
| | (1.374) | (1.363) | (1.946) | (1.915) | (1.449) | (1.340) | (2.101) | (1.890) |
| L1.lnp_BPH | -0.115 | 0.123 | -0.091 | 0.301 | 0.008 | -0.230 | 0.066 | -0.260 |
| | (0.412) | (0.539) | (0.643) | (0.691) | (0.428) | (0.551) | (0.676) | (0.709) |
| L1.lnpreins_BPH | 0.430 | -0.168 | 0.929* | -0.245 | 0.468 | -0.030 | 0.872* | -0.147 |
| | (0.299) | (0.399) | (0.511) | (0.547) | (0.299) | (0.407) | (0.525) | (0.551) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: Each row represents a separate regression. The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year or the lagged log of the average post- or pre-insurance price per effective day. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

## 6.2 Younger Cohorts

As an additional placebo exercise, we estimate analogous models for younger cohorts of men, specifically those aged 30–39 and 40–49. Testing younger cohorts is

Table 12: IV: Placebo

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| **Panel A: Atorvastatin** | | | | | | | | |
| L1.lnday_Ato | -4.614 | 4.498 | -10.521 | 6.124 | -2.702 | 14.458 | -6.867 | 18.988 |
| | (7.760) | (8.354) | (12.894) | (10.771) | (10.123) | (11.199) | (16.266) | (15.046) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 14.097 | 14.175 | 13.254 | 13.291 | 8.342 | 8.356 | 7.835 | 7.859 |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |
| **Panel B: BPH** | | | | | | | | |
| L1.lnday_BPH | 1.131 | -1.216 | 0.885 | -2.955 | -0.079 | 2.429 | -0.678 | 2.708 |
| | (4.030) | (5.341) | (6.254) | (6.804) | (4.498) | (5.830) | (6.989) | (7.380) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 41.709 | 41.339 | 42.009 | 40.722 | 36.113 | 35.742 | 36.818 | 35.593 |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. We use the lagged log of the average post-insurance price per effective day as the Instrumental Variable. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

informative because erectile dysfunction is substantially less prevalent at younger ages, and ED medication use is correspondingly rare. As a result, any association between ED medication use and divorce for these cohorts would be difficult to reconcile with a mechanism operating through sexual functioning and would instead suggest broader confounding factors or spurious correlations.

In these specifications, ED usage among the younger cohorts (ages 30–39 or 40–49) is used to construct the state–year measures of prices and utilization. Results are reported in Tables 13 (IV = Post- Insurance Prices) and Appendix Table B.8 (IV = Pre- Insurance Prices). Across both OLS and IV specifications, estimated coefficients for younger cohorts are typically smaller in magnitude and less precisely estimated than those for men aged 50–64 or 50 and above. These patterns are consistent with ED medications having a more pronounced impact on marital stability at older ages—where both ED prevalence and medication use are substantially higher—and provide additional support for the interpretation that our main results are not driven by general trends in drug use or unobserved state-level shocks.

Table 13: ED Medication Use and Divorce, Younger Cohort

| | 30≤ Age ≤39 | | 40≤ Age ≤49 | | 30≤ Age ≤39 | | 40≤ Age ≤49 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| **Panel A: OLS Results** | | | | | | | | |
| L1.lnday | -1.518 | 1.603 | -1.207 | 1.793 | -1.067 | 1.813 | -1.148 | 1.678 |
| | (1.214) | (1.258) | (1.090) | (1.110) | (1.210) | (1.241) | (1.026) | (1.041) |
| L1.lnp | -0.172 | -0.852 | 0.614 | -0.127 | 0.023 | -0.645 | 0.729 | 0.320 |
| | (0.641) | (0.676) | (0.592) | (0.682) | (0.660) | (0.715) | (0.642) | (0.729) |
| L1.lnpreins | 0.288 | -1.160 | -0.022 | -0.010 | 1.250 | -0.443 | -0.381 | 0.731 |
| | (1.131) | (1.147) | (0.934) | (0.919) | (1.239) | (1.262) | (1.072) | (0.984) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 1,199,730 | 1,343,022 | 1,500,559 | 1,582,598 | 1,199,730 | 1,343,022 | 1,500,559 | 1,582,598 |
| Mean Dep. Var. | 21.634 | 22.940 | 19.340 | 20.080 | 21.634 | 22.940 | 19.340 | 20.080 |
| **Panel B: IV Results** | | | | | | | | |
| L1.lnday | 0.617 | 3.069 | -1.805 | 0.373 | -0.079 | 2.193 | -1.998 | -0.878 |
| | (2.304) | (2.462) | (1.751) | (2.007) | (2.239) | (2.449) | (1.764) | (2.006) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 133.300 | 131.664 | 166.994 | 169.232 | 145.960 | 143.571 | 184.942 | 188.285 |
| Obs. | 1,199,730 | 1,343,022 | 1,500,559 | 1,582,598 | 1,199,730 | 1,343,022 | 1,500,559 | 1,582,598 |
| Mean Dep. Var. | 21.634 | 22.940 | 19.340 | 20.080 | 21.634 | 22.940 | 19.340 | 20.080 |

*Notes*: Each row represents a separate regression. The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. For Panel A, the independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year or the lagged log of the average post- or pre-insurance price per effective day. Both price and quantity measures are constructed using enrollees of the corresponding younger cohort. For Panel B, the independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. We use the lagged log of the average post-insurance price per effective day as the Instrumental Variable. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

## 6.3 Additional Robustness and Sensitivity Analyses

We conduct a variety of robustness checks and additional analyses to assess potential threats to identification and the stability of our findings.

First, a potential concern is that ED medication prices may be endogenous if manufacturers or insurers respond to divorce patterns—for example, by lowering prices in state–years with higher divorce rates to stimulate demand. To address this concern, we test for reverse causality by regressing future ED prices on lagged divorce rates. As shown in Table 14, lagged female divorce rates are, if anything, associated with slightly higher subsequent ED prices, and the estimated magnitudes are small. This pattern is inconsistent with a scenario in which ED manufacturers reduce prices in response to higher divorce rates, which would bias our estimates toward finding a negative effect of prices on divorce.

Table 14: Do Divorce Rates Predict Future ED Medication Prices?

| | lnp | | | | lnpreins | | | |
|---|---|---|---|---|---|---|---|---|
| | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | | Age $\geq$ 50 | | 64$\geq$ Age $\geq$50 | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| L1.divorce | 0.002 | 0.013** | 0.004 | 0.008* | -0.001 | 0.002 | -0.000 | 0.002 |
| | (0.003) | (0.006) | (0.003) | (0.005) | (0.002) | (0.003) | (0.001) | (0.002) |
| Obs. | 561 | 561 | 561 | 561 | 561 | 561 | 561 | 561 |
| Adj. R-sq | 0.769 | 0.774 | 0.770 | 0.772 | 0.864 | 0.864 | 0.864 | 0.864 |

*Notes*: This table examines whether divorce rates predict subsequent ED medication prices, as a test for reverse causality. The dependent variables are the log post-insurance price per effective day of ED medication (lnp) and the log pre-insurance price per effective day (lnpreins), measured at the state–year level. The key regressor is the one-year lag of the divorce rate for the indicated gender and age group. All specifications include state fixed effects and year fixed effects. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Second, we examine whether post-divorce migration could affect our results by exploiting ACS information on respondents' state of residence one year prior to the survey. Our estimates are very similar when state of residence is defined based on the previous year's location, suggesting that interstate mobility following divorce does not drive our findings. The fact that many recently divorced individuals report living in the same residence as one year earlier likely reflects prolonged separations prior to formal divorce.

Third, we assess the sensitivity of our results to the inclusion of individuals who became widowed in the past year. Excluding recently widowed individuals yields estimates that are very similar to our baseline results, indicating that potential misclassification is not a major concern.

Fourth, we examine the robustness of our results to excluding individuals who are separated or married but living apart from their spouses. This restriction addresses the concern that such individuals may be in transitional marital states or experience relationship dynamics that differ systematically from those of continuously cohabiting married couples. The estimates remain very close to our baseline results, as shown in Appendix Tables B.9–B.10, suggesting that our findings are not driven by the inclusion of individuals whose marital status or living arrangements place them at the margin of divorce.

Fifth, we evaluate whether individual health status confounds our estimates by controlling for disability indicators, which may be correlated with both medication use and divorce behavior. Including these controls leaves the results largely unchanged, suggesting that differential health or disability is unlikely to explain our findings.

Finally, since divorce is a relatively rare outcome, we examine the sensitivity of our results to the use of a nonlinear probability model by estimating Logit regressions. Appendix Table B.11 reports Average Marginal Effects (AMEs). The estimated effects are quantitatively and qualitatively similar to those from the linear probability model, suggesting that functional-form concerns are not driving our findings. We therefore use the LPM as our baseline specification.

# 7 Conclusion

This paper studies whether the diffusion of erectile dysfunction (ED) medications has contributed to changing patterns of marital stability at older ages. Motivated by the divergence between declining overall divorce rates and persistently high divorce rates among older adults, we link state–year measures of ED medication prices and utilization from MarketScan to individual divorce outcomes in the American Community Survey. Using both reduced-form regressions and an instrumental variables strategy that instruments ED utilization with plausibly exogenous variation in ED prices, we estimate the effect of ED medication access on divorce.

We find consistent evidence that increased access to ED medications raises divorce risk among older men. In both OLS and IV specifications, higher ED utilization among men aged 50–64 predicts higher divorce rates in the subsequent year, with magnitudes that imply a nontrivial contribution to aggregate trends. Dynamic specifications indicate that the effects are concentrated at short horizons, consistent with ED medications affecting the timing of divorce among couples already near dissolution rather than producing persistent long-run changes in marital stability.

Our findings contribute to a growing literature on how medical innovations shape economic behavior and family structure, and they highlight a novel mechanism for gray divorce. Treatments that improve health and well-being can also alter outside options and bargaining positions within existing marriages, potentially accelerating separation in relationships that are already fragile. From a policy perspective, the results underscore that pharmaceutical innovations may generate unintended social spillovers that are not captured by standard evaluations focused on health outcomes alone.

Several limitations point to directions for future research. First, our MarketScan-based measures cover only commercially insured men under age 65, so they provide an imperfect proxy for ED medication use among Medicare beneficiaries and individuals without employer-sponsored coverage. Second, the state–year design does not allow us to directly observe within–couple mechanisms, such as changes in sexual activity, relationship satisfaction, or new partnership formation. Richer data linking prescriptions to couple-level outcomes would help distinguish between competing channels—for example, improved marital match quality versus increased outside options—and clarify whether ED medications primarily induce divorces that would have occurred later or instead lead to additional divorces that would not otherwise have occurred. Finally, an important open question is whether similar dynamics arise for other treatments that affect quality-of-life dimensions of health, particularly among older adults.

Overall, the evidence suggests that the potency of the pill extends beyond health: by changing sexual functioning and associated incentives within long-term marriages, ED medications have contributed to marital instability at older ages and to the evolving landscape of gray divorce.

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# A CPS Sample Construction

We use the CPS to complement the ACS in two ways: (i) to construct a transition-based measure of divorce that is comparable (though mechanically lower) than the ACS "divorced in the last 12 months" outcome, and (ii) to recover information on spouses' and ex-spouses' ages that is not observed for newly divorced individuals in the ACS. The CPS's rotating panel structure—households are interviewed for four consecutive months, leave the sample for eight months, and then return for four additional months—allows us to link individuals over time and observe marital-status changes within person.

**Sample linkage.** We begin with CPS monthly microdata (2009–2019) and retain respondents with valid longitudinal identifiers (i.e., `cpsidv`) that permit person-level linkage across interviews. We use the month-in-sample indicator (`mish`, taking values 1–8) to track each respondent across the rotation pattern.

**At-risk definition and divorce transitions.** To approximate the ACS concept of divorcing "in the last 12 months," we construct 12-month observation windows implied by the CPS rotation design. Specifically, for respondents observed in month-in-sample 5, 6, 7, or 8, we define a corresponding 12-month window (months 1–5, 2–6, 3–7, or 4–8). An individual is classified as *at risk* if they are observed as married at least once early in the window (e.g., married in any of months 1–4 for the 1–5 window). We record a divorce transition if the same individual is subsequently observed as divorced after having been observed as married within the same window. This "married → divorced" definition is intentionally conservative: it requires observing the respondent on both sides of the transition and avoids counting individuals who enter the CPS already divorced with no observed pre-divorce status.

Applying this procedure yields individual–month-in-sample observations (with `mish` $= 5, 6, 7$, or 8). To avoid overweighting individuals who remain married and are therefore observed in more months, we randomly select a single eligible month-in-sample for each individual classified as at risk. The resulting analysis sample is thus at the individual level, with each person contributing at most one observation. Our results are robust to using the full individual–month-in-sample data without this randomization.

**Why CPS divorce rates are lower than ACS.** The CPS-based measure is mechanically lower than the ACS because it requires that respondents be observed at least twice (and in the appropriate months) to register a transition. Divorce-related household moves can cause one or both ex-spouses to leave the sampled household, making it less likely that the CPS observes the same person both while married and later while divorced. In contrast, the ACS can survey individuals after they move and directly asks whether a divorce occurred within the prior 12 months. We therefore use the CPS primarily as a complementary, transition-based measure and for spouse-age information, rather than as a replacement for ACS outcomes.

**Spouse and ex-spouse information.** A key advantage of the CPS is that, for currently married and co-residing individuals, we observe spouse characteristics (including spouse age) through household linkages. This allows us to conduct analyses that condition on the husband's age—for example, examining women married to men aged 50–64.

A limitation of the analyses that condition on (ex-)spouse characteristics is that such information can only be recovered if the couple is observed living together (i.e., spouse present and linkable in the household roster) at least once prior to divorce, if any. In practice, almost half of individuals who eventually divorce are observed as separated or married but spouse absent throughout their CPS observation window, so the couple is never jointly observed, and the ex-spouse's age is not recorded. As a result, restricting attention to observations with non-missing (ex-)spouse age selects toward couples who co-resided at some point prior to divorce and mechanically lowers measured divorce rates—and can alter sample composition—in spouse-age-conditioned samples. We therefore interpret results that rely on observed spouse ages as applying to the subset of divorcing couples who are observed co-residing at least once in the CPS.

# B Supplementary Figures and Tables

Table B.1: Summary Statistics of Medication Prices and Quantities

| | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| p | 4.16 | 2.26 | 0.35 | 20.15 |
| preins | 12.15 | 4.46 | 2.85 | 26.84 |
| day | 92.49 | 17.55 | 43.21 | 149.03 |
| lnp | 1.30 | 0.51 | -1.06 | 3.00 |
| lnpreins | 2.43 | 0.38 | 1.05 | 3.29 |
| lnday | 4.51 | 0.20 | 3.77 | 5.00 |
| p_Ato | 0.35 | 0.33 | 0.03 | 2.02 |
| preins_Ato | 1.45 | 1.40 | 0.16 | 6.44 |
| day_Ato | 267.04 | 15.15 | 171.36 | 325.16 |
| lnp_Ato | -1.47 | 0.92 | -3.51 | 0.70 |
| lnpreins_Ato | -0.14 | 1.03 | -1.81 | 1.86 |
| lnday_Ato | 5.59 | 0.06 | 5.14 | 5.78 |
| p_BPH | 0.31 | 0.20 | 0.12 | 1.76 |
| preins_BPH | 0.89 | 0.89 | 0.20 | 3.84 |
| day_BPH | 220.38 | 17.28 | 133.74 | 284.48 |
| lnp_BPH | -1.33 | 0.49 | -2.14 | 0.56 |
| lnpreins_BPH | -0.47 | 0.76 | -1.62 | 1.35 |
| lnday_BPH | 5.39 | 0.08 | 4.90 | 5.65 |
| Observations | 561 | | | |

*Notes:* Summary statistics for state–year measures constructed from MarketScan for male enrollees aged 50–64 with ED claims. *day* is the average effective days supplied per enrollee with any ED prescription; *p* (*preins*) is the average post-insurance (pre-insurance) price per effective day; *lnday*, *lnp*, and *lnpreins* are logs of the corresponding variables. Suffixes *_Ato* and *_BPH* denote analogous measures for atorvastatin and BPH medications. Monetary values are in real 2010 dollars.

Table B.2: Summary Statistics of Divorce Rates

| | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| Male Aged 50 and Above | 10.18 | 3.48 | 1.60 | 44.69 |
| Female Aged 50 and Above | 10.16 | 3.50 | 1.32 | 38.99 |
| Male Aged 50-64 | 13.85 | 5.37 | 0.63 | 65.98 |
| Female Aged 50-64 | 12.84 | 4.47 | 1.74 | 45.17 |
| Total | 11.76 | 4.57 | 0.63 | 65.98 |
| Observations | 561 | | | |

*Notes:* Divorce rates are computed from ACS (2009–2019) as divorces per 1,000 individuals at risk of divorce (divorced or widowed in the past 12 months; currently married or separated), aggregated to the state–year level. Groups are defined by sex and age range as labeled.

Table B.3: Summary Statistics of Individual-level Controls

| | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| # of Children in HH | 0.41 | 0.78 | 0 | 9 |
| Any Child in HH | 0.28 | 0.45 | 0 | 1 |
| Grade 12 | 0.39 | 0.49 | 0 | 1 |
| Some College | 0.13 | 0.34 | 0 | 1 |
| College+ | 0.31 | 0.46 | 0 | 1 |
| Hispanic | 0.08 | 0.27 | 0 | 1 |
| Black | 0.07 | 0.25 | 0 | 1 |
| Asian | 0.05 | 0.21 | 0 | 1 |
| Other Non-White | 0.04 | 0.19 | 0 | 1 |
| Foreign-Born | 0.14 | 0.35 | 0 | 1 |
| Observations | | 8,988,801 | | |

*Notes:* Table shows the individual-level control variables from the ACS sample. Indicator variables equal one if the characteristic is present. HH stands for household. # of Children in HH counts co-resident children observed in the ACS.

Table B.4: Summary Statistics of State-Year Controls

| | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| Share w. Emp/Union Insurance | 0.72 | 0.06 | 0.59 | 0.84 |
| L1.State GDP | 12.24 | 1.02 | 10.29 | 14.86 |
| ln(Pop) | 15.14 | 1.03 | 13.21 | 17.49 |
| Sex Ratio | 97.50 | 3.28 | 88.60 | 111.40 |
| Hispanic Share | 0.11 | 0.10 | 0.01 | 0.49 |
| Black Share | 0.11 | 0.11 | 0.00 | 0.53 |
| Asian Share | 0.04 | 0.07 | 0.01 | 0.49 |
| Other NW Share | 0.08 | 0.06 | 0.02 | 0.27 |
| Some College Share | 0.53 | 0.06 | 0.36 | 0.73 |
| Foreign-Born Share | 0.10 | 0.06 | 0.01 | 0.28 |
| Male Emp Rate | 0.64 | 0.04 | 0.52 | 0.75 |
| Female Emp Rate | 0.56 | 0.04 | 0.45 | 0.65 |
| Gender Wage Gap 50–64 | 0.45 | 0.09 | -0.05 | 0.77 |
| L1.ln(MonthlyRent) | 6.83 | 0.22 | 6.32 | 7.46 |
| Observations | 561 | | | |

*Notes:* State–year covariates used in the main regressions. Shares are in levels (0–1). *L1.* indicates one-year lags. Monetary variables are in real 2010 dollars where applicable. Details are described in Section 2.1.

Table B.5: IV: ED Medication Use and Divorce (IV = Pre-Insurance Price)

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.lnday | 2.998*** | 0.713 | 6.425*** | 0.895 | 3.675*** | -0.485 | 6.672*** | -0.738 |
| | (1.075) | (1.276) | (1.689) | (1.634) | (0.927) | (1.029) | (1.428) | (1.380) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 91.766 | 92.307 | 92.529 | 93.372 | 122.644 | 122.856 | 126.421 | 126.248 |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. We use the lagged log of the average pre-insurance price per effective day as the Instrumental Variable. Controls are described in Section 2.1. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.6: IV: ED Medication Use with 1–3 Year Lags (IV = Pre-Insurance Prices)

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.lnday | 2.302* | -0.189 | 4.647** | -0.364 | 2.913** | -0.705 | 4.854** | -0.851 |
| | (1.182) | (1.201) | (1.998) | (1.560) | (1.174) | (1.166) | (1.977) | (1.534) |
| L2.lnday | -0.292 | -1.086 | 1.951 | -2.102 | 0.270 | -1.427 | 2.364 | -2.598 |
| | (1.044) | (1.367) | (1.902) | (1.801) | (1.097) | (1.326) | (1.932) | (1.772) |
| L3.lnday | -1.114 | 1.089 | -2.119 | 2.989 | -0.509 | 0.645 | -1.827 | 2.079 |
| | (1.045) | (1.410) | (1.728) | (1.950) | (1.057) | (1.352) | (1.733) | (1.901) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 21.835 | 21.990 | 21.972 | 22.274 | 37.883 | 37.830 | 40.251 | 39.660 |
| Obs. | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 |
| Mean Dep. Var. | 8.933 | 9.062 | 12.218 | 11.631 | 8.933 | 9.062 | 12.218 | 11.631 |

*Notes*: The dependent variable of interest is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variables of interest are the log of the average effective days lagged for 1, 2, and 3 years, instrumented by the log of the average pre-insurance price per effective day lagged for 1, 2, and 3 years. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.7: IV: ED Medication Use by Lag Length (IV = Pre-Insurance Prices)

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = Divorced | Male (1) | Female (2) | Male (3) | Female (4) | Male (5) | Female (6) | Male (7) | Female (8) |
| L1.lnday | 2.998*** | 0.713 | 6.425*** | 0.895 | 3.675*** | -0.485 | 6.672*** | -0.738 |
| | (1.075) | (1.276) | (1.689) | (1.634) | (0.927) | (1.029) | (1.428) | (1.380) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 91.766 | 92.307 | 92.529 | 93.372 | 122.644 | 122.856 | 126.421 | 126.248 |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |
| L2.lnday | 1.301 | 0.500 | 4.565** | 0.275 | 1.828* | -0.476 | 4.397** | -1.062 |
| | (1.147) | (1.382) | (1.903) | (1.755) | (1.077) | (1.168) | (1.716) | (1.546) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 80.522 | 81.342 | 82.120 | 83.037 | 120.715 | 121.553 | 126.460 | 126.322 |
| Obs. | 4,243,997 | 3,995,928 | 2,340,939 | 2,400,676 | 4,243,997 | 3,995,928 | 2,340,939 | 2,400,676 |
| Mean Dep. Var. | 8.921 | 9.064 | 12.199 | 11.628 | 8.921 | 9.064 | 12.199 | 11.628 |
| L3.lnday | -0.726 | 0.592 | -0.228 | 2.017 | 0.223 | -0.094 | 0.225 | 0.813 |
| | (1.084) | (1.298) | (1.721) | (1.829) | (1.068) | (1.238) | (1.642) | (1.797) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 71.842 | 72.033 | 74.007 | 73.985 | 108.387 | 108.016 | 116.355 | 114.098 |
| Obs. | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 | 3,851,584 | 3,630,506 | 2,110,429 | 2,168,374 |
| Mean Dep. Var. | 8.933 | 9.062 | 12.218 | 11.631 | 8.933 | 9.062 | 12.218 | 11.631 |

*Notes*: Each row represents a separate regression. The dependent variable of interest is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the log of the average effective days lagged for 1, 2, or 3 years, instrumented by the log of the average pre-insurance price per effective day lagged for 1, 2, or 3 years. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.8: IV: ED Medication Use and Divorce, Younger Cohort (IV = Pre-Insurance Prices)

| | 30≤ Age ≤39 | | 40≤ Age ≤49 | | 30≤ Age ≤39 | | 40≤ Age ≤49 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = Divorced | Male (1) | Female (2) | Male (3) | Female (4) | Male (5) | Female (6) | Male (7) | Female (8) |
| L1.lnday | -0.716 | 2.881 | 0.053 | 0.024 | -2.741 | 0.970 | 0.793 | -1.526 |
| | (2.794) | (2.830) | (2.224) | (2.192) | (2.722) | (2.754) | (2.234) | (2.120) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 70.773 | 69.954 | 32.631 | 31.913 | 88.973 | 89.861 | 31.474 | 30.765 |
| Obs. | 1,199,730 | 1,343,022 | 1,500,559 | 1,582,598 | 1,199,730 | 1,343,022 | 1,500,559 | 1,582,598 |
| Mean Dep. Var. | 21.634 | 22.940 | 19.340 | 20.080 | 21.634 | 22.940 | 19.340 | 20.080 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. We use the lagged log of the average pre-insurance price per effective day as the Instrumental Variable. Both price and quantity measures are constructed using enrollees of the corresponding younger cohort. Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.9: OLS: Excluding Separated or Married-Spouse-Absent Individuals

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.lnday | 1.928*** | -0.267 | 3.067*** | -0.768 | 1.909*** | -0.432 | 2.838*** | -1.021 |
| | (0.546) | (0.667) | (0.830) | (0.943) | (0.534) | (0.654) | (0.818) | (0.932) |
| L1.lnp | -0.693*** | 0.070 | -0.905** | 0.045 | -0.757*** | 0.167 | -0.852** | 0.141 |
| | (0.247) | (0.306) | (0.402) | (0.410) | (0.262) | (0.302) | (0.408) | (0.420) |
| L1.lnpreins | -1.128*** | -0.241 | -2.509*** | -0.300 | -1.733*** | 0.275 | -3.268*** | 0.407 |
| | (0.415) | (0.484) | (0.607) | (0.622) | (0.437) | (0.488) | (0.648) | (0.662) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,370,362 | 4,092,982 | 2,419,111 | 2,467,384 | 4,370,362 | 4,092,982 | 2,419,111 | 2,467,384 |
| Mean Dep. Var. | 9.396 | 9.596 | 12.877 | 12.316 | 9.396 | 9.596 | 12.877 | 12.316 |

*Notes*: Each row represents a separate regression. The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average post- or pre-insurance price per effective day. Controls are described in Section 2.1. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.10: IV: Excluding Separated or Married-Spouse-Absent Individuals

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| Dep. Var. = | Male | Female | Male | Female | Male | Female | Male | Female |
| Divorced | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.lnday (IV = lnp) | 2.444*** | -0.248 | 3.166** | -0.159 | 2.498*** | -0.553 | 2.779** | -0.462 |
| | (0.841) | (1.077) | (1.371) | (1.436) | (0.849) | (0.999) | (1.307) | (1.371) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 231.958 | 231.748 | 233.969 | 234.196 | 261.726 | 259.893 | 270.202 | 266.588 |
| Obs. | 4,370,362 | 4,092,982 | 2,419,111 | 2,467,384 | 4,370,362 | 4,092,982 | 2,419,111 | 2,467,384 |
| Mean Dep. Var. | 9.396 | 9.596 | 12.877 | 12.316 | 9.396 | 9.596 | 12.877 | 12.316 |
| L1.lnday (IV = lnpreins) | 3.055*** | 0.652 | 6.801*** | 0.810 | 3.823*** | -0.607 | 7.150*** | -0.891 |
| | (1.129) | (1.320) | (1.763) | (1.698) | (0.977) | (1.080) | (1.504) | (1.449) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Fstat | 92.145 | 92.381 | 93.057 | 93.695 | 123.672 | 123.344 | 127.606 | 127.188 |
| Obs. | 4,370,362 | 4,092,982 | 2,419,111 | 2,467,384 | 4,370,362 | 4,092,982 | 2,419,111 | 2,467,384 |
| Mean Dep. Var. | 9.396 | 9.596 | 12.877 | 12.316 | 9.396 | 9.596 | 12.877 | 12.316 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months, scaled by 1,000 for ease of interpretation. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. We use the lagged log of the average post-insurance price per effective day as the Instrumental Variable. Controls are described in Section 2.1. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.11: Logit: ED Medication Use and Divorce

| | Age ≥ 50 | | 64≥ Age ≥50 | | Age ≥ 50 | | 64≥ Age ≥50 | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| L1.lnday | 1.933*** | -0.202 | 2.987*** | -0.747 | 1.866*** | -0.511 | 2.713*** | -1.161 |
| | (0.533) | (0.665) | (0.809) | (0.942) | (0.524) | (0.642) | (0.804) | (0.911) |
| Controls | - | - | - | - | Y | Y | Y | Y |
| Obs. | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 | 4,632,565 | 4,356,236 | 2,570,369 | 2,630,725 |
| Mean Dep. Var. | 8.915 | 9.045 | 12.186 | 11.591 | 8.915 | 9.045 | 12.186 | 11.591 |

*Notes*: The dependent variable is the indicator for whether the individual divorced within the prior 12 months. The independent variable of interest is the lagged log of the average effective days of ED medication supplied per male enrollee in a given state–year. The table entries are the re-scaled (multiplied by 1000) average marginal effect (AME): change in divorces per 1,000 individuals associated with a 1-unit increase in the regressor, holding the controls fixed and averaging over the sample, based on a logit functional form.Controls are described in Section 2.1. Age, state, and year fixed effects are included in all columns. Standard errors in parentheses are clustered at the state-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.