

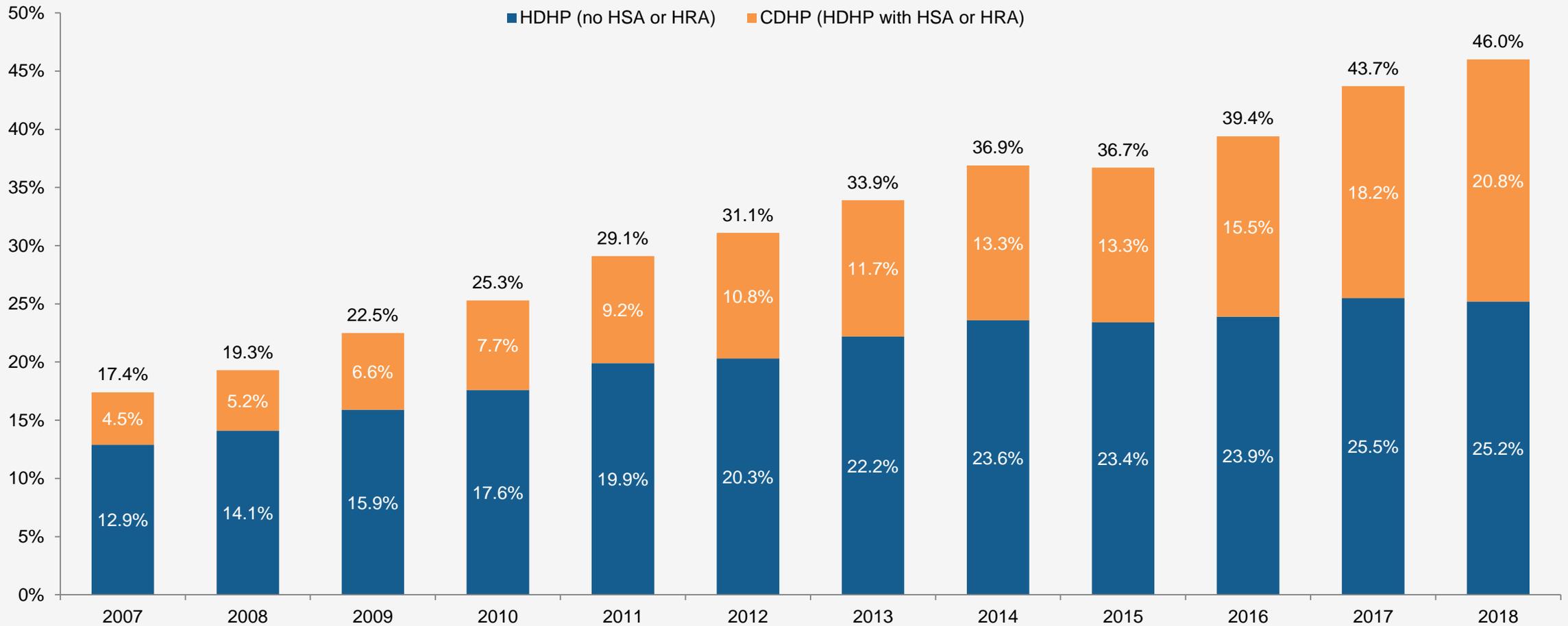


HSA Balances and Use of Health Care Services

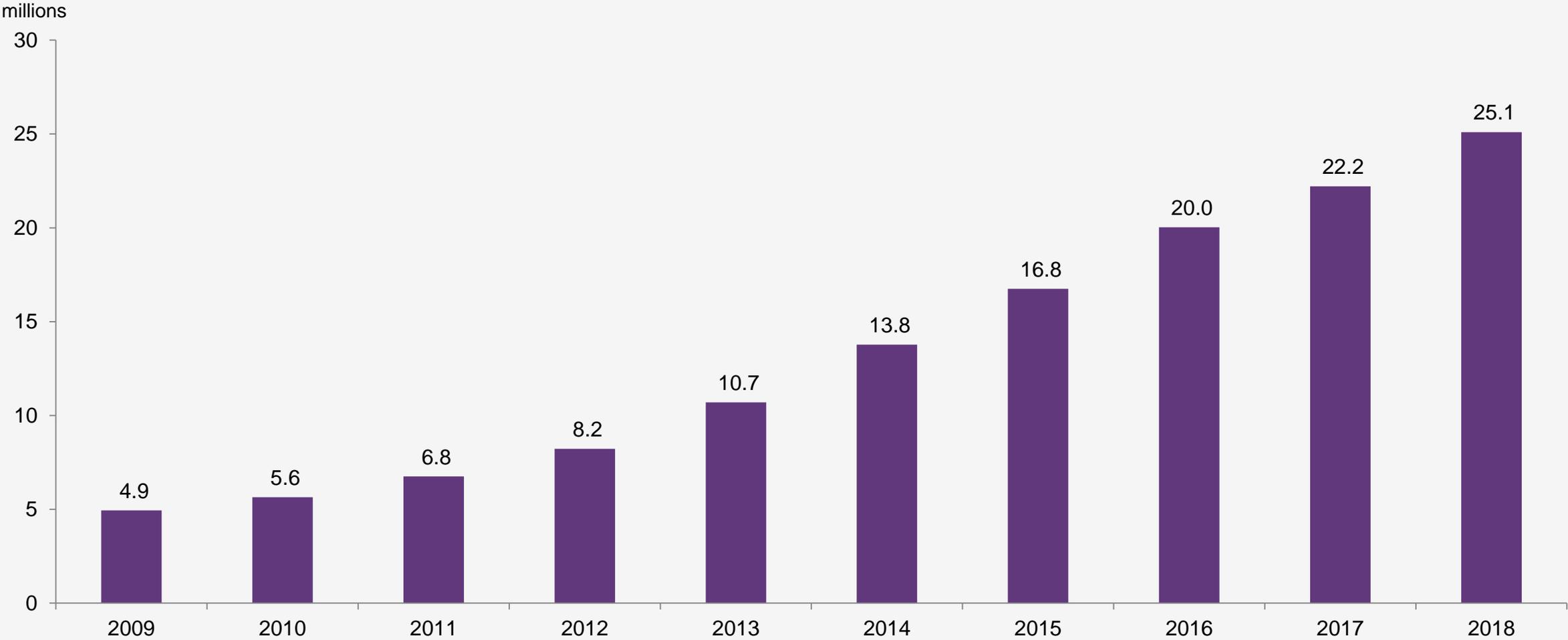
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Percentage of Persons With Private Health Insurance Under Age 65 Enrolled in HDHP or CDHP, 2007–2018



Total HSA Accounts, 2009-2018



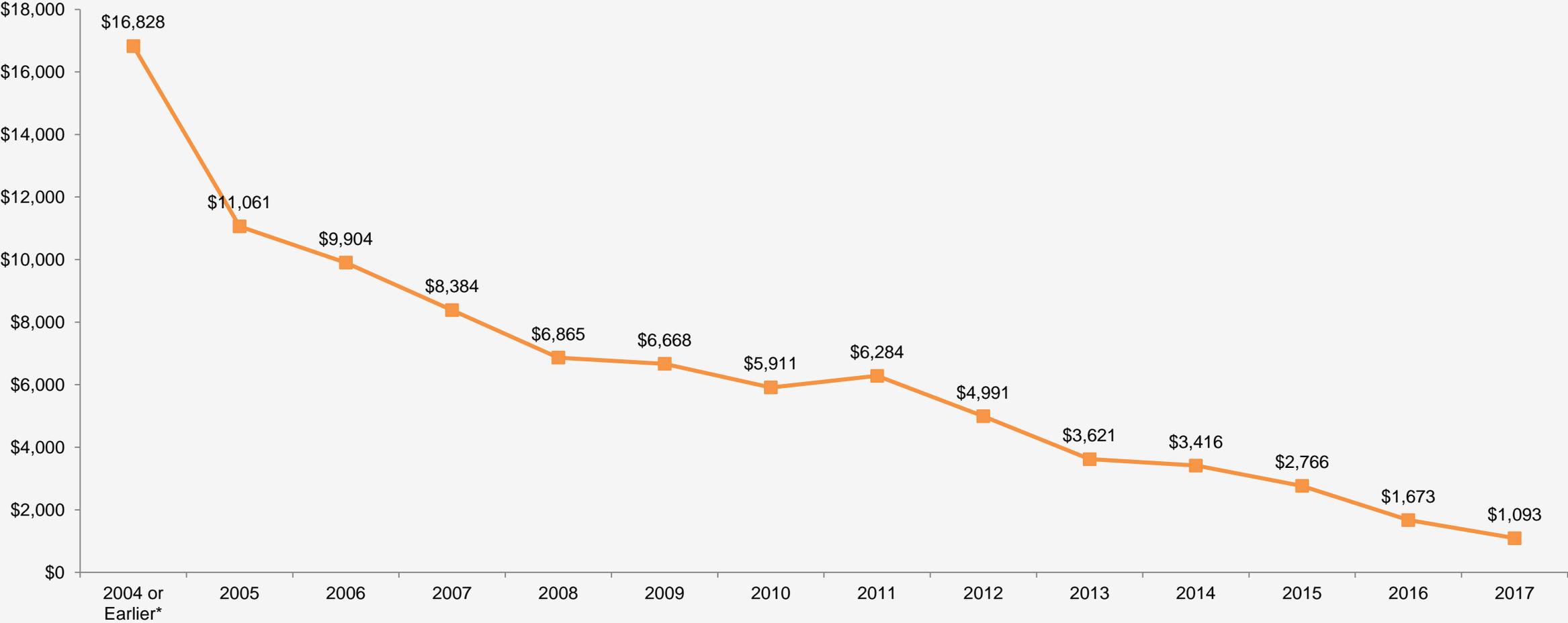
Prior Research

- Impact of HSA-eligible health plan
 - Use of health care services
 - Medication adherence for individuals with chronic conditions
 - Quality indicators
 - Preventive services
 - Low-value services
 - Examined by worker income
- Plan choice
 - Increased plan options
 - Zero premiums
 - Health status and disenrollment

HSA is a Missing Piece

- Do account balances affect use of health care services?
- Do account balances affect choice of health plan?

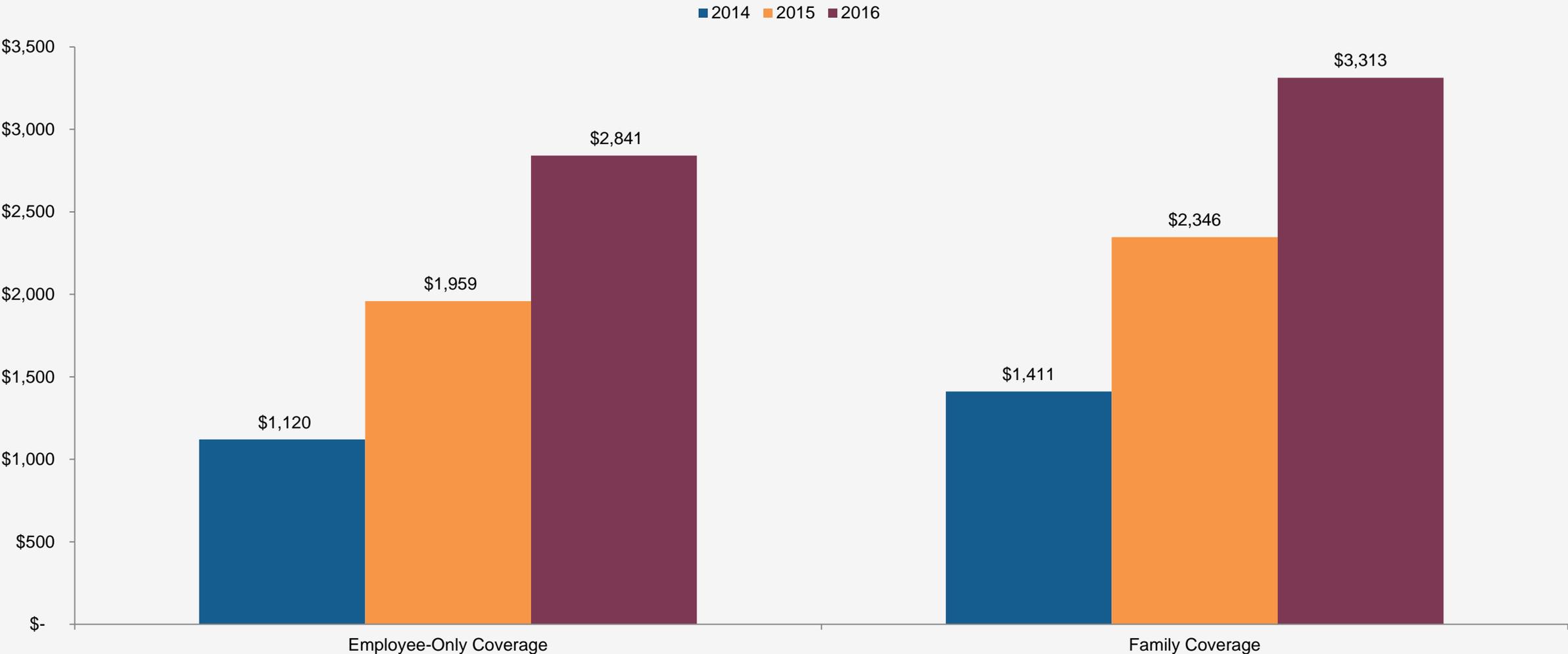
Average End-of-year Account Balance, by Year Account was Opened, 2017



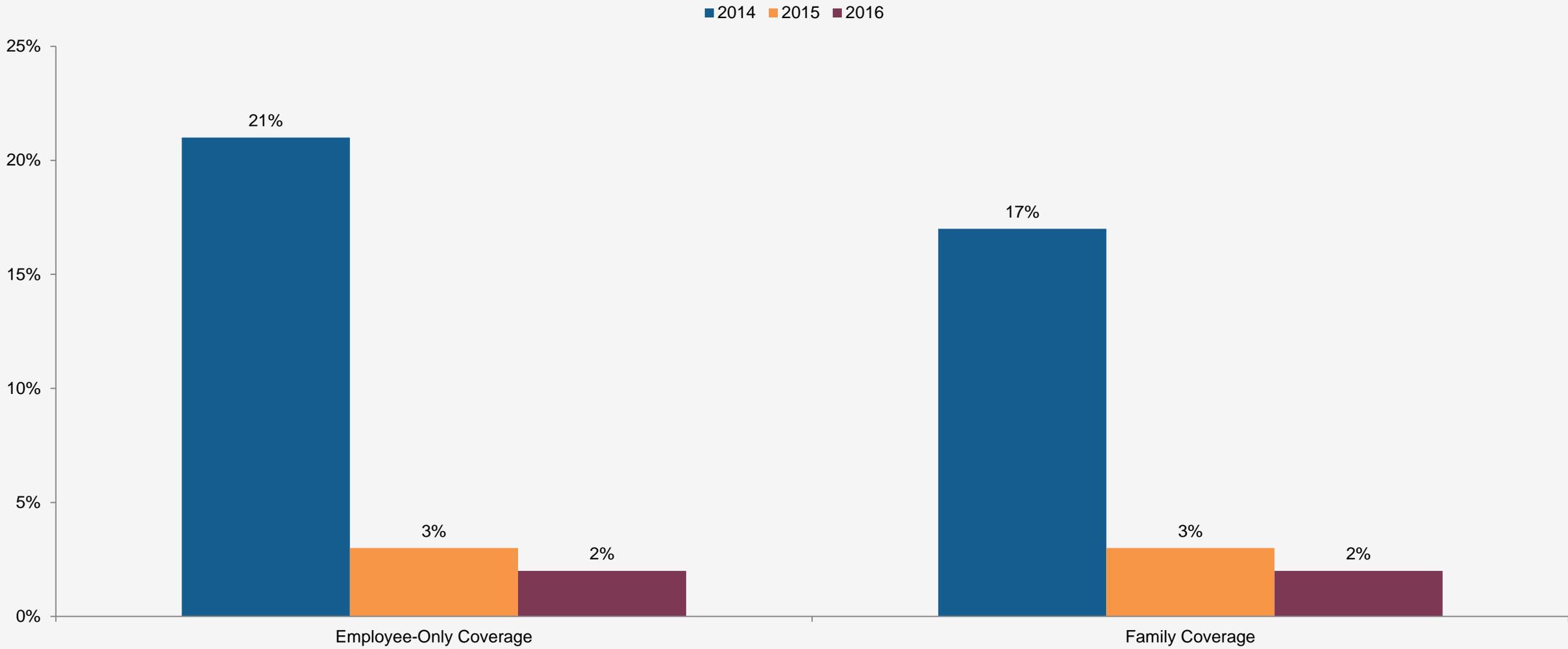
Data

- Pharmacy/medical claims, eligibility information, and HSA data from a large national employer
- Matched on birth year, gender, ZIP code, family versus individual coverage, employer HSA contribution information, deductible levels
- Study years: 2013-2016
- Sample sizes in HSA-eligible health plans: N=5,800 each year (n=2,000 with employee-only coverage; n=3,800 with family coverage)

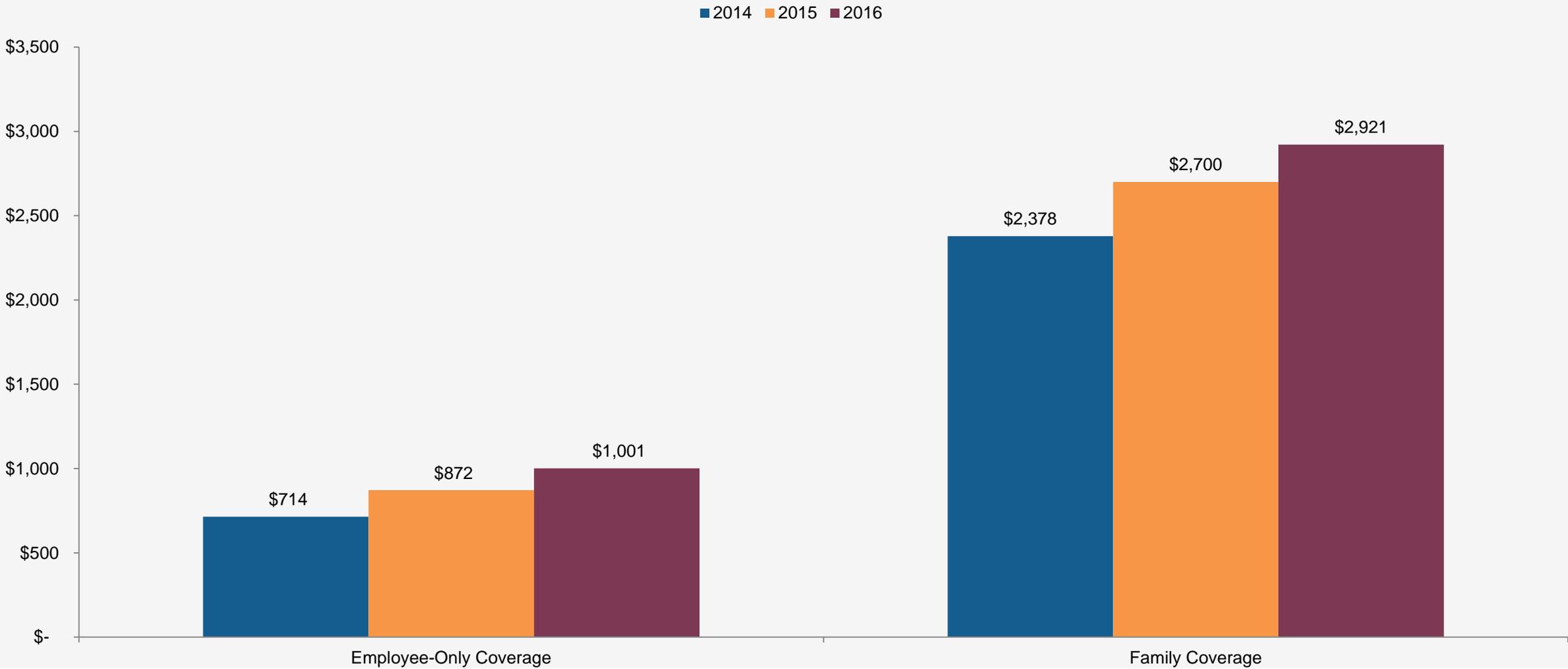
Beginning of Year Balance, 2014-2016



Percent with Zero Balance at Beginning of Year, 2014-2016



Average Annual Distributions, 2014-2016



Factors Accounting for Higher Use/Spending

- Average age increases each year
- Increasing number of health conditions diagnosed each year (per Charlson Comorbidity Index)
- Price increases
- Regression analysis needed to isolate impact of account balance from other confounding variables

Specific Outcomes to be Examined

- Key independent variable: beginning of year balance
- Key outcomes:
- Inpatient admission and days, emergency dept visits, PCP visits, specialist visits, prescription drug fills, imaging, labs
- Medication adherence for people with diabetes, high-blood pressure, high cholesterol, depression, Asthma/COPD
- LDL testing for people with CVD and diabetes; HbA1c screening for diabetics; medication monitoring for adults with select maintenance drugs (ie ACE inhibitors)
- Cancer screenings: breast cancer, cervical cancer, colorectal cancer
- Low value services: imaging
- Interaction with income

Preliminary Regression Results – Part 1

	HSA Balance (1000s)		HSA Balance > \$3,000	
Inpatient hospital admissions	0.0001		0.01	
Inpatient hospital days	-0.004		0.05	
Emergency department visits	0.01	*	0.05	**
Outpatient physician's office visits	0.10	***	0.50	***
PCP visits	0.05	***	0.21	***
Specialist visits	0.06	***	0.29	***
Prescription drug fills	0.01		-0.08	

Preliminary Regression Results – Part 2

	HSA Balance (1000s)		HSA Balance > \$3,000	
Blood test, panel	0.03	***	0.09	
EKG, ECHO, Stress Test	0.03	***	0.03	
X-Ray	0.03	***	0.11	***
CT Scan	0.01	***	0.03	***
MRI	0.005	*	0.02	
Chiropractic visits	0.04		0.29	***
Physical Therapy	0.10	**	0.43	***



The Impact of Deductibles on Use of Low-Value Health Care Services

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Consumers Increase Use of Low Valued Services After Meeting Deductibles

- Much recent attention in identifying and reducing use of health services that are considered “low-value” (*Choosing Wisely* provides a comprehensive list)
- Low-value services (LVS) are either harmful or of little clinical benefit
- Under low or zero patient cost-sharing, the potential for moral hazard is great, thus it is of interest to study member use of LVS once the deductible has been met
- We make use of MarketScan’s new benefit design database (which provides deductible amounts) merged with claims data for 2015 to examine 5 LVS + cancer screenings:
 - Imaging for Low-Back Pain
 - Imaging for Uncomplicated Headache
 - Pre-op testing for Low-Risk Surgeries (Hernia Repair)
 - Vitamin D testing
 - PSA testing
- We study the effect of having reached the deductible on the probability of using the LVS

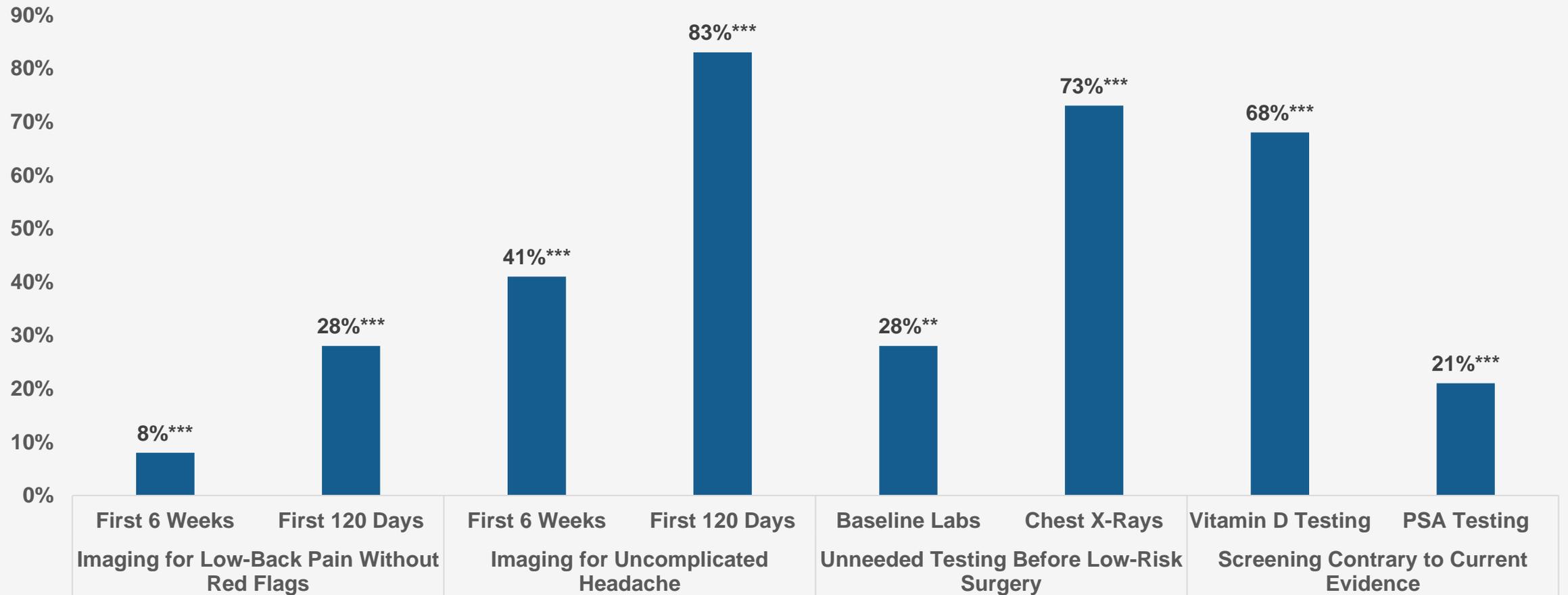
What is the “Choosing Wisely” Campaign?

- An initiative of the American Board of Internal Medicine (ABIM) Foundation
- Aims to promote conversations between clinicians and patients by helping patients choose care that is:
 - Supported by evidence
 - Not duplicative of other tests or procedures already received
 - Free from harm
 - Truly necessary

Low Back Pain – 12 Recommendations

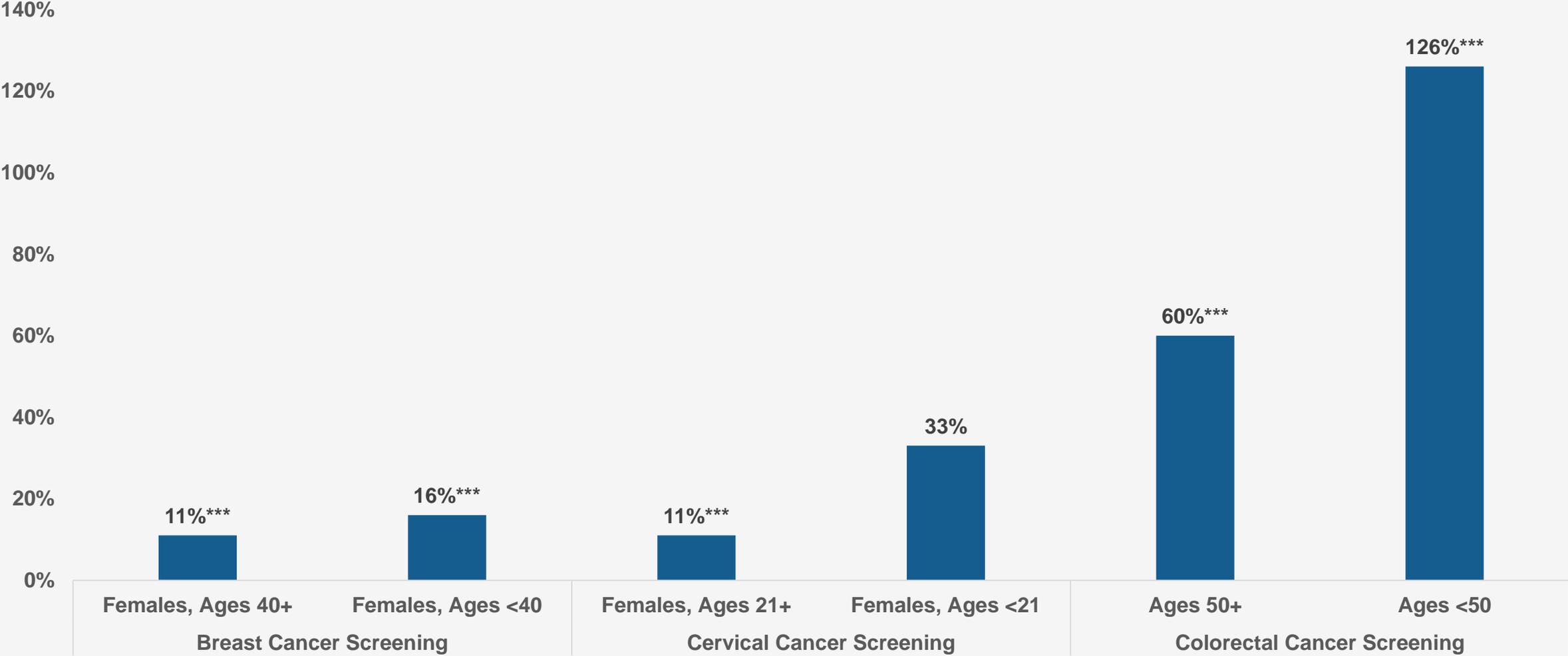
Society	Recommendation
North American Spine Society	Don't recommend advanced imaging (e.g., MRI) of the spine within the first six weeks in patients with non-specific acute low back pain in the absence of red flags.
American Academy of Family Physicians	Don't do imaging for low back pain within the first six weeks, unless red flags are present.
American College of Physicians	Don't obtain imaging studies in patients with non-specific low back pain.

Increase in Receipt of Commonly Overused Services After Meeting Deductible



Source: EBRI calculations of 2015 Truven MarketScan® claims.
Notes: **p< 0.05, ***p<0.01

Increase in Receipt of Commonly Overused Cancer Screenings After Meeting Deductible



Key Takeaway

- Reaching deductibles results in an increase in use of health care services that are unneeded and potentially harmful.