Changes in Reimbursement Policy:
Key Findings from Penn State and Tulane

NEXT-D2 Stakeholder Meeting

September 24, 2020

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pcornet
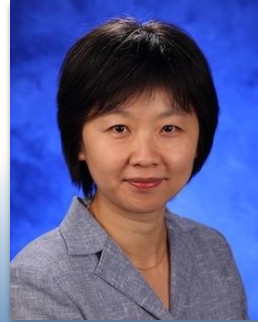The National Patient-Centered Clinical Research Network

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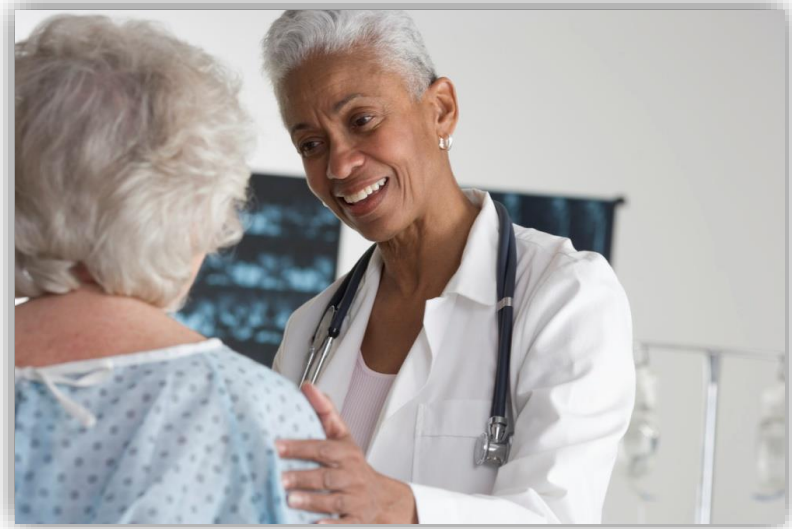
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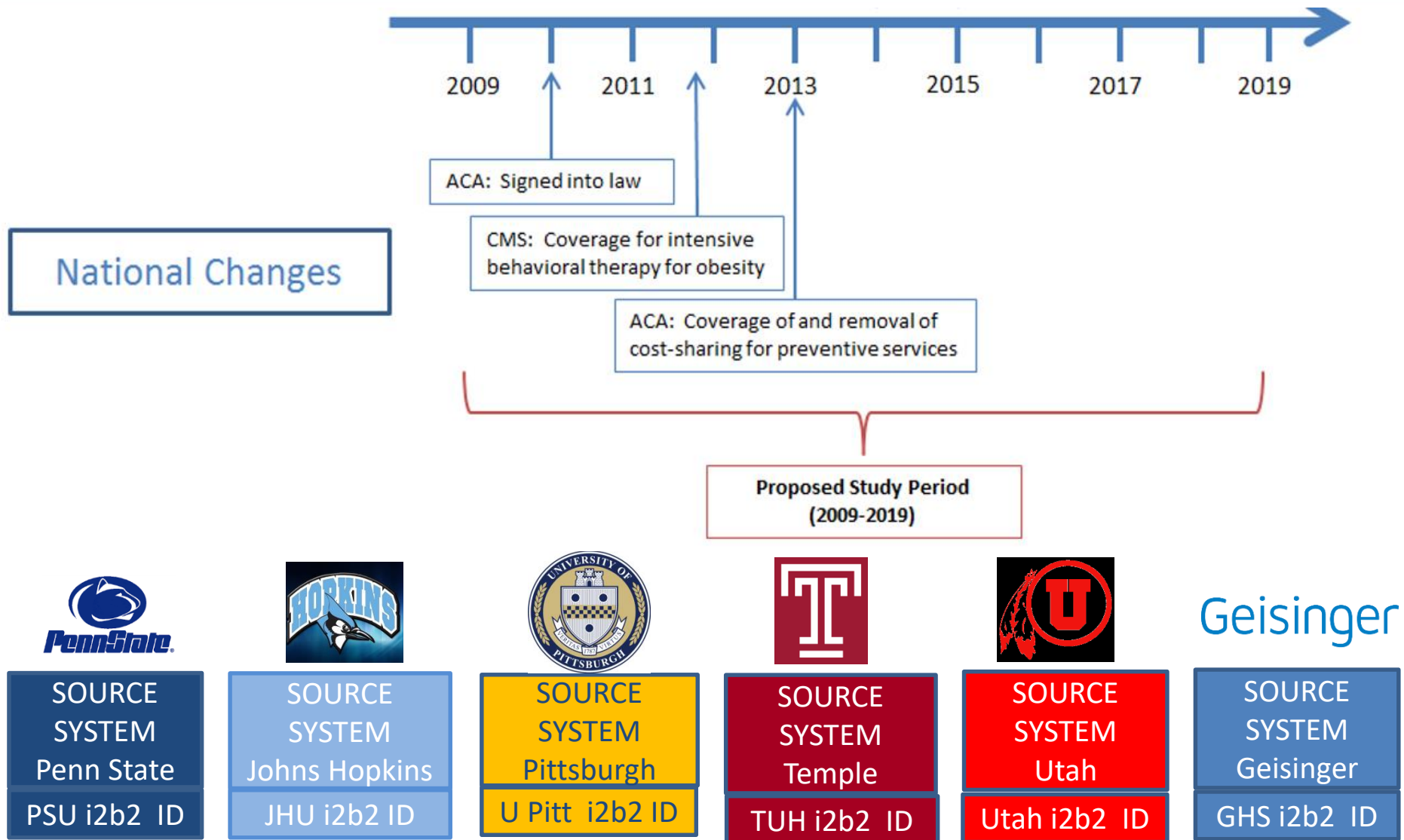[Geisinger Health System](#)

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Coverage of IBT for Obesity

- CMS covers Intensive behavioral therapy (IBT) - up to 20 face-to-face visits
- Most insurers cover IBT with no cost sharing

Coverage Timeline

Specific Aims

- Aim 1: Evaluate the impact of preventive service coverage for obesity IBT on weight loss, diabetes incidence, and diabetes outcomes, in patients with diabetes or at high risk for diabetes.

- Aim 2: Compare patient weight loss and diabetes-related outcomes among those who receive obesity IBT to those who do not, following implementation of preventive service coverage.

Study Findings

Determinants of Receiving Intensive Behavioral Therapy for Obesity in Patients with Diabetes

(accepted for publication at Clinical Obesity)

Patient Cohort
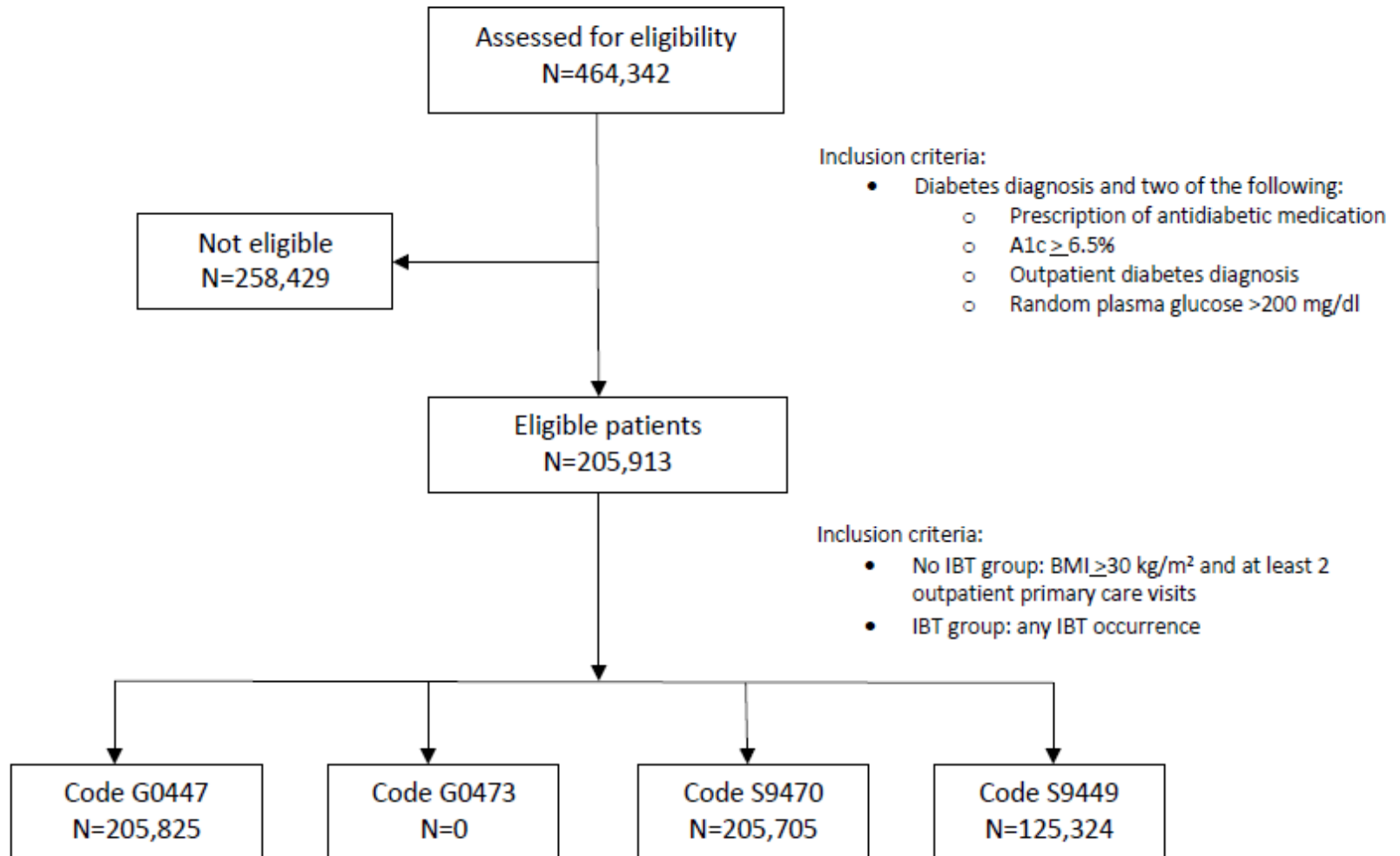
IBT Codes Overall by Year

| Year	G0447		S9449		S9470	
	Total	N (%)	Total	N (%)	Total	N (%)
2009	53,925	0 (0.0)	22,018	0 (0.0)	53,930	9 (0.02)
2010	62,787	0 (0.0)	28,988	0 (0.0)	62,787	4 (0.01)
2011	73,770	0 (0.0)	38,432	184 (0.48)	73,771	4 (0.01)
2012	84,003	16 (0.02)	47,574	100 (0.21)	84,001	19 (0.02)
2013	96,234	128 (0.13)	55,703	148 (0.27)	96,213	31 (0.03)
2014	107,691	159 (0.15)	64,863	152 (0.23)	107,661	54 (0.05)
2015	114,508	214 (0.19)	68,685	113 (0.16)	114,471	69 (0.06)
2016	118,895	242 (0.20)	71,018	74 (0.10)	118,864	95 (0.08)
2017	124,502	304 (0.24)	76,046	9 (0.01)	124,389	70 (0.06)

Data Analysis

- Patient characteristics summarized closest to diabetes diagnosis

- IBT utilization defined yearly and prevalence calculated for each year

- Denominator = patients with a visit that year

- Multivariable model included age group, gender, race, and rurality

IBT by age
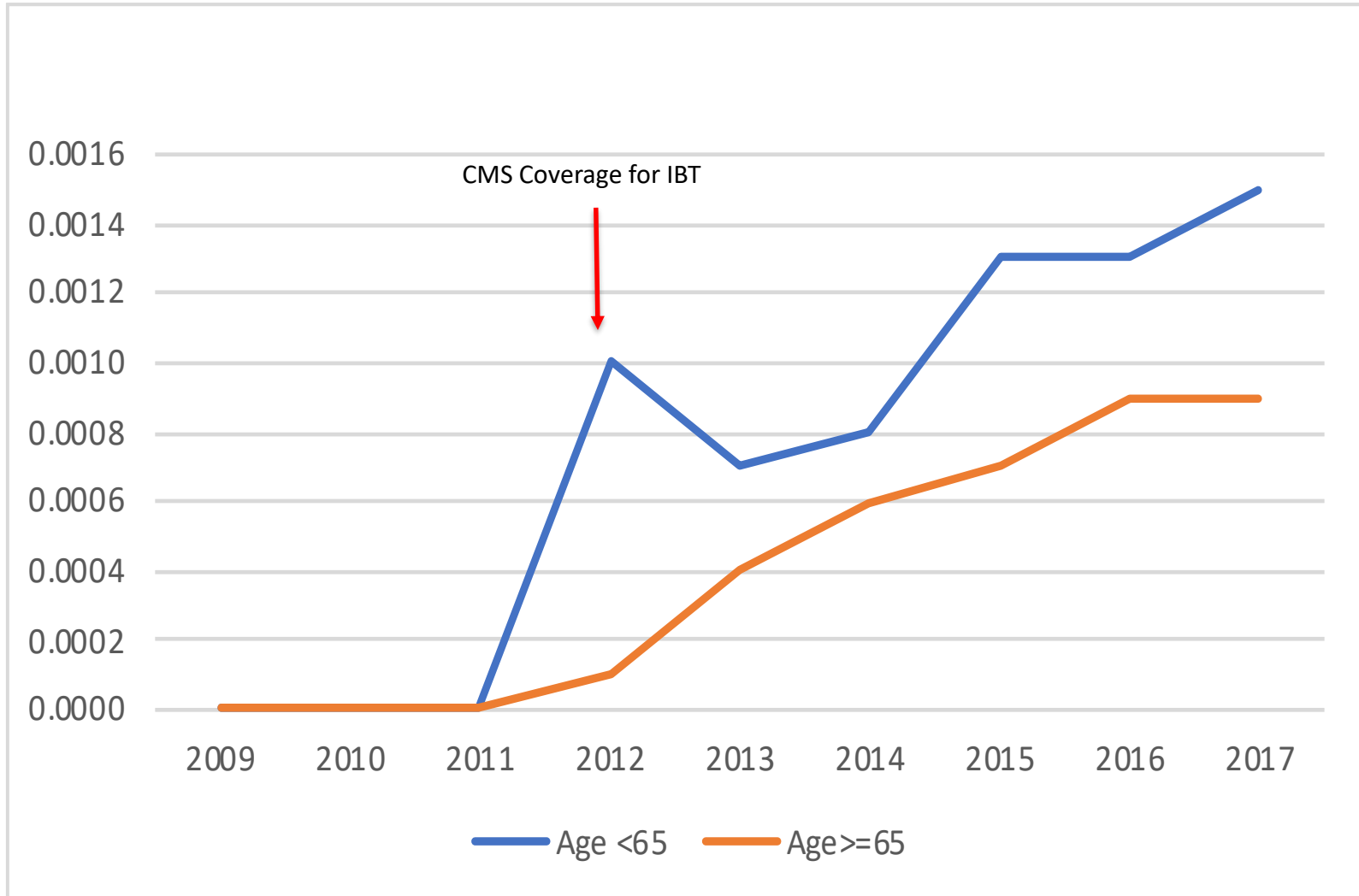
IBT by Gender
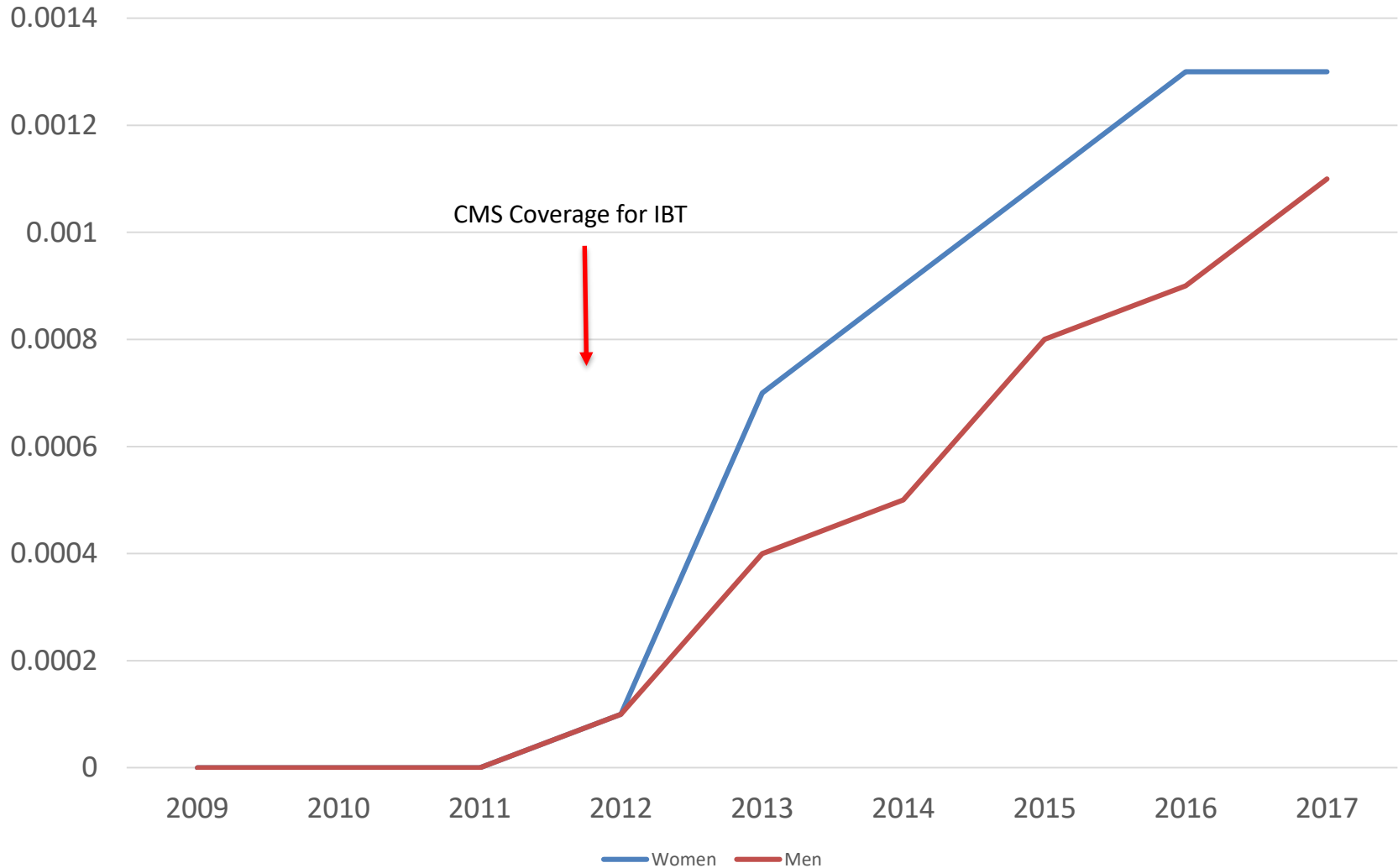
IBT by Rurality
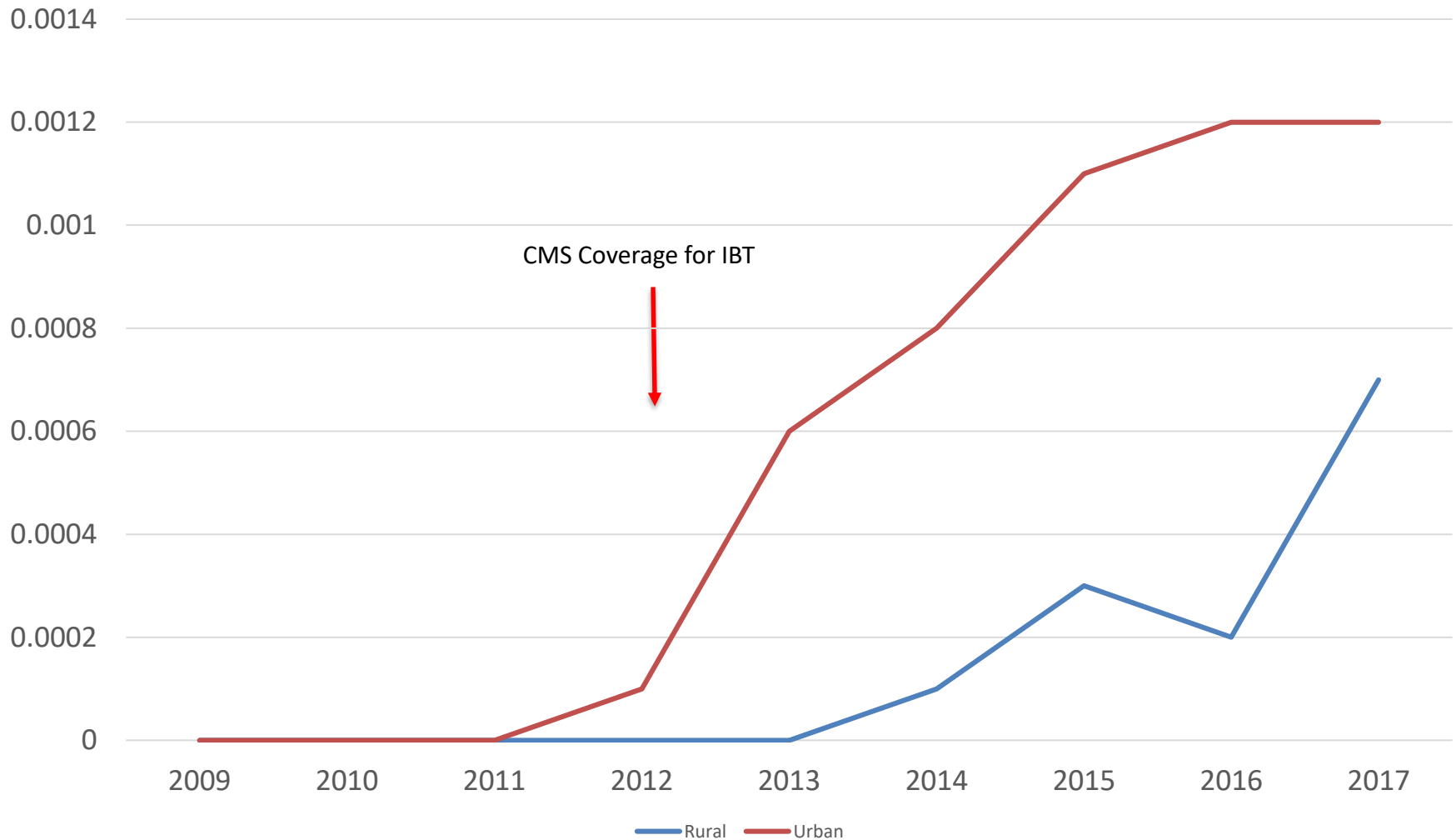
Summary

- To understand utilization of IBT coverage from 2009-2017 in eligible patients with a diabetes diagnosis (n=464,342)
- Results:
  - Low usage overall
  - IBT users tend to be younger, female, non-white (black or Hispanic), and reside in urban areas

Next Steps

- Aim 2 Analyses
- PCP Qualitative Interviews:

Recruit (n=25) PCP's experienced with IBT to learn more about their challenges/ successes in primary care implementation and how this may be impacted by COVID-19 (telemedicine).

Enhancement Funds

- Aim 1: To understand the impact of telemedicine access(telephonic and/or virtual visits) compared to no telemedicine visits for outpatient care for patients with, or at risk of, type 2 diabetes during the pandemic on patient-centered outcomes including hemoglobin A1c and healthcare utilization, with sub-group analysis of patients with COVID-19

- Aim 2: To evaluate the risk of severe COVID-19 disease (defined by hospitalization and mortality)in patients with diabetes and/or elevated BMI, with a focus on identifying modifiable factors (i.e., medication use, treatment timeline/location, chronic comorbid conditions) and associated with improved outcomes to inform immediate intervention and future study.

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Enhancement Funds

- Primary Outcome: hemoglobin A1c

- Secondary outcomes: number/types of encounters (outpatient, ED visits, hospitalizations), COVID-19 severity (hospitalization, death); Pre-Diabetes cohort: number/types of encounters (outpatient, ED visits, hospitalizations), COVID-19 severity (hospitalization, death).

- Hypothesis: Patients with telehealth visits will have improved hemoglobin A1c values at the population level.

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Louisiana Experiment Assessing Diabetes outcomes (LEAD) Study:
Impact of a CMS Reimbursement Policy Supporting Care Coordination in Louisiana

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Research Objectives

- To assess the impacts of Medicare reimbursement for non-face-to-face chronic care management services (NFFCCM) on health outcomes in patients with diabetes plus at least one other chronic condition

- To examine barriers and facilitators to implementation and adoption of NFFCCM from the perspectives of healthcare providers and patients

Non-Face-to-Face Chronic Care Management

- As of January 1, 2015, Medicare reimburses primary care practices up to once a month for **non-face-to-face chronic care management services**.
- Additional reimbursement codes added in 2017

Original "non-complex" CCM (2015)

1. CPT 99490 – at least 20 minutes of NFFCCM services per month ($43)

Complex CCM (added in 2017)

1. CPT 99487 – at least 60 minutes of NFFCCM services per month ($90)
2. CPT 99489 – each additional 30 minutes of NFFCCM services ($47)

Project Components & Methods

Assessing impacts on clinical outcomes

- Analysis of Electronic Health Record (EHR) data **+ Medicare claims**

Examining barriers and facilitators to implementation

- Semi-structured interviews with patients, providers, and system leaders

Engaging stakeholders in research process

- Continuous involvement of patient partners and consultation with stakeholder groups

Primary Analytic Approach

Comparative Effectiveness Analysis

Do NFFCCM services impact outcomes (e.g. A1c control) for those receiving the services?

- Compared to Medicare patients eligible for, but not receiving, NFFCCM

Medicare patients not exposed to chronic care management services	vs.	Patients receiving chronic care management services

Analytical strategies: propensity score matching + multivariable regression

Medicare Claims Data Analysis Plan

Seeking statewide Medicare claims data to expand evaluation to perform two Comparative Effectiveness analyses:

1. Within REACHnet Medicare cohort, we will link clinical + claims data to enable us to:

    - Identify patients receiving NFFCCM services billed outside of REACHnet health systems

    - Ascertain healthcare utilization and study outcomes beyond REACHnet health systems

2. Additional claims-based statewide CER on impacts of NFFCCM

NFFCCM Uptake

Year	System A	System B
2015	6	0
2016	113	8
2017	119	122
2018	1,131	137
2019	1,700	0
2020 (Jan-Mar)	1,249	0
Total	1,916	149

Source: Electronic Health Records; includes original & new NFF CCM codes

Methods

- Our analysis aimed to estimate the impact of NFFCCM on utilization of inpatient, outpatient, and emergency services.

- We implemented a doubly robust estimator using propensity score matching in a regression context to compare eligible patients who used NFFCCM to eligible patients that did not use NFFCCM.

- We successfully matched all baseline characteristics within 10% of a standardized difference for 282 treated observations and 26,759 control observations.

Matched characteristics-T2DM

- After matching, no standardized mean differences larger than 10%

Variables	NFF CCM	No NFF CCM	SMD
Female (%)	63	65	3.00%
Hispanic (%)	1	1	0.70%
Hispanic Missing (%)	0	1	3.10%
Black (%)	72	71	-1.80%
White (%)	27	28	1.70%
Other Race (%)	1	1	0.60%
Age at Treatment (years)	71.47	71.98	4.80%
Medicare Payer (baseline) (%)	57	59	4.60%
Hypertension (%)	99	98	-0.80%
Alzheimer's (%)	4	4	4.30%
Arthritis (%)	88	88	0.20%
Asthma (%)	26	25	-3.20%
Atrial Fib (%)	22	23	0.40%
Cancer (%)	28	28	0.00%
Chronic Obstructive Pulmonary Disease (%)	37	35	-3.90%
End Stage Renal Disease (%)	58	57	-1.90%
Depression (%)	55	54	-1.10%
Heart Failure (%)	43	42	-1.70%
Hyperlipidemia (%)	77	74	-5.40%
Chronic Heart Disease (%)	51	49	-4.00%
Osteoporosis (%)	19	19	0.10%
Stroke (%)	35	36	3.00%
Schizophrenia (%)	4	4	4.30%
A1C tests / month (baseline)	0.26	0.26	1.70%
ED visits / month (baseline)	0.06	0.06	2.70%
IPT visits / month (baseline)	0.04	0.05	3.30%
OPT visits / month (baseline)	0.37	0.37	3.30%
Months in sample before treatment	48.02	47.37	-4.80%

* SMD: standardized mean difference.

Results

Association between receiving NFFCCM and utilization measures

	Emergency Department Visits per Month	Inpatient Stays per Month	Outpatient Visits per Month
NFFCCM Receipt	-0.017**	-0.024***	0.056***
	(0.007)	(0.007)	(0.015)
Number of Patients	27,041	27,041	27,041

Notes: Coefficients from a doubly-robust estimator showing the association between NFFCCM receipt and emergency department visits per month, inpatient stays per month, and outpatient visits per month. Standard errors appear in parentheses. Abbreviation: NFFCCM = non-face-to-face chronic care management

Results

- Patients who received NFFCCM experienced fewer ED visits and inpatient stays afterward as well as increased outpatient visits.

- Our core estimates indicate a decrease of 20.4 (0.017*12*100) ED visits per 100 patients annually and a decrease of 28.8 (0.024*12*100) inpatient stays per 100 patients annually.

- NFFCCM appears to help shift patient care from the ED and inpatient settings to outpatient visits, which is a major goal when attempting to provide chronic disease care in lower, rather than higher, cost settings.

- We found similar impacts when we modeled treatment receipt at different intervals (at least once every three months, at least once every two months, or once a month).

Study Objectives COVID-19 Enhancement

- **Aim 1: Examine facilitators and barriers to uptake, adoption, and implementation of telehealth services among Medicare patients with diabetes from health systems', providers' and patients' perspectives.**
  - With the substantial increase in telehealth encounters starting in early March 2020, we hypothesize disparities in adoption and implementation of telehealth at health system, provider and patient levels.

- **Aim 2: Compare diabetes control and continuity of care between patients with and without utilization of telehealth.**
  - We hypothesize better diabetes management among Medicare patients with telehealth versus without.

Summary

- Value of a common data model:
  - Highlight strength in understanding differential rates of intervention uptake across health systems
  - Real-world results from policy implementation

Contact Information

Thank you!

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