



National Institute of  
Diabetes and Digestive  
and Kidney Diseases



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# NATIONAL SURGICAL TRENDS IN LOWER URINARY TRACT SYMPTOMS ASSOCIATED WITH BENIGN PROSTATIC HYPERPLASIA

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VA



U.S. Department  
of Veterans Affairs



# BACKGROUND

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- ❖ Most LUTS/BPH studies are:
  - Single (maybe multi) center treatment response series
    - Industry funded drug studies
    - New procedural/surgical technique
  - Epidemiologic studies using incomplete or poorly representative data sets
- ❖ LUTS/BPH affects men as young as the 30s and 40s
  - Underrepresented in the above data sets

# UROLOGIC DISEASES IN AMERICA

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- ❖ Sponsored by National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), part of the National Institutes of Health

# UDA

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- ❖ Pulls from two data sources
  - Optum<sup>©</sup> Clinformatics<sup>®</sup> Data Mart (CDM)
  - Medicare 5% Sample
- ❖ Optum = private insurance men aged 40-64 from all 50 states
- ❖ Medicare = men 65 and over
- ❖ Comprehensive LUTS/BPH Cohort

# COHORTS

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## ❖ **Yearly cross section cohort** from years 2004-2013

- BPH related ICD9 code
- Surgical CPT codes
- Use: disease prevalence, procedure usage

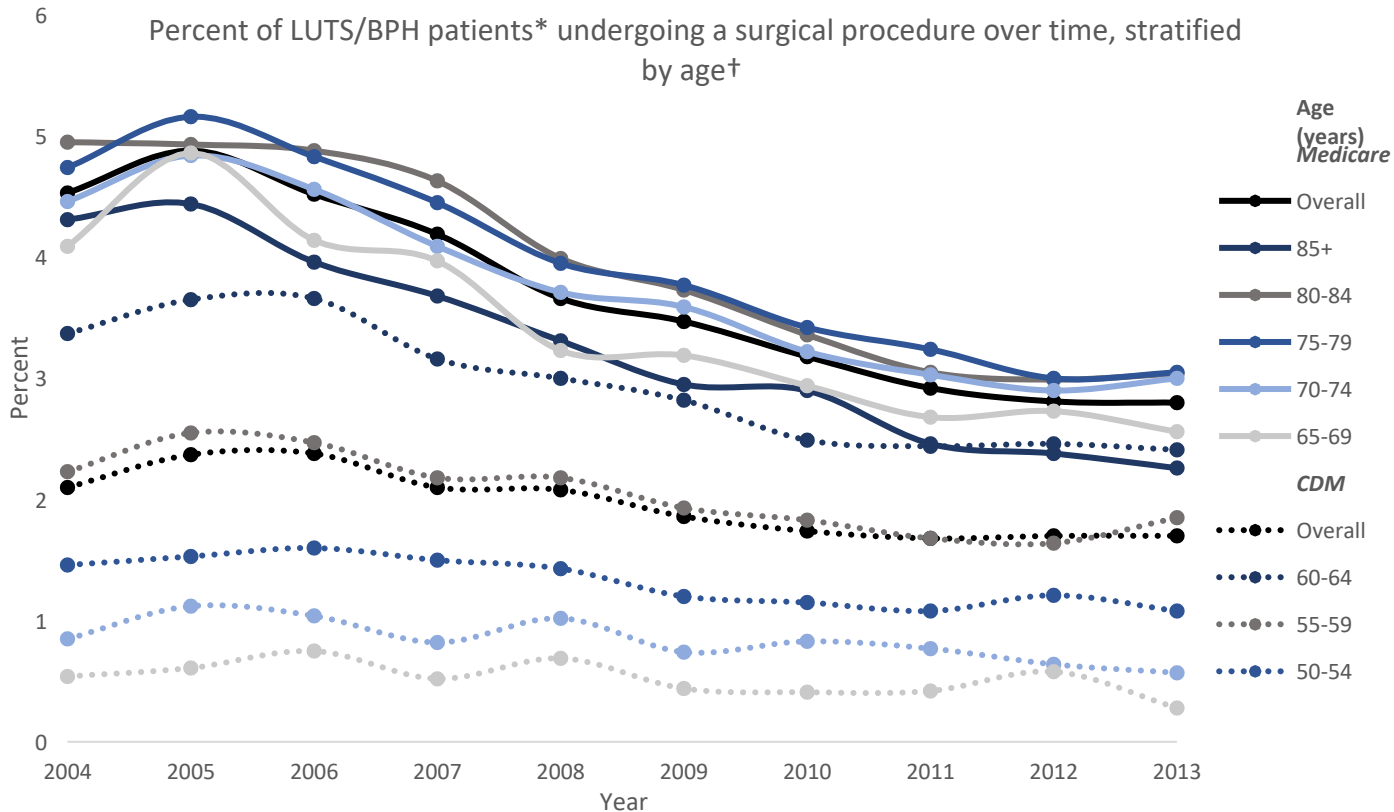
## ❖ **Longitudinal cohort**

- No previous BPH code for 3 years with diagnosis in 2009
  - Then followed for 5 years
- Use: Rate of treatment usage

# RESULTS

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# YEARLY CROSS SECTION COHORT



❖ Decreasing use of surgery over time

❖ Highest use: 80-84 and 75-79 years

\* Data source: De-identified Optum® Clinformatics® Data Mart (ages 40-64) and Centers for Medicare and Medicaid Services, Medicare 5% Prescription Event File (ages 65+), 2004-2013.

# LONGITUDINAL COHORT RATE

Table 2

Rate of LUTS/BPH surgical procedures among Optum<sup>®</sup> Clinformatics<sup>®</sup> Data Mart enrollees and Medicare beneficiaries<sup>a</sup> with incident LUTS/BPH in the Longitudinal Cohort, 2009-2013<sup>b</sup>  
by age

	Number of LUTS/BPH patients with surgery <sup>c</sup>	Person-years	Rate <sup>d</sup>
<b>Age (years) in 2009</b>			
40 - 49	21 <sup>e</sup>	8,112	0.3
50 - 59	105	19,906	0.5
60 - 64	127	10,374	1.2
65 - 75	12,160	714,380	1.7
75 - 84	15,960	723,140	2.2
85+	5,040	216,080	2.3

<sup>a</sup> Data source: De-identified Optum<sup>®</sup> Clinformatics<sup>®</sup> Data Mart (ages 40-64) and Centers for Medicare and Medicaid Services, Medicare 5% Prescription Event File (ages 65+), 2009-2013.

- ❖ RATE increases with age
- ❖ Highest rate of surgery in incident men in oldest cohort (85+)

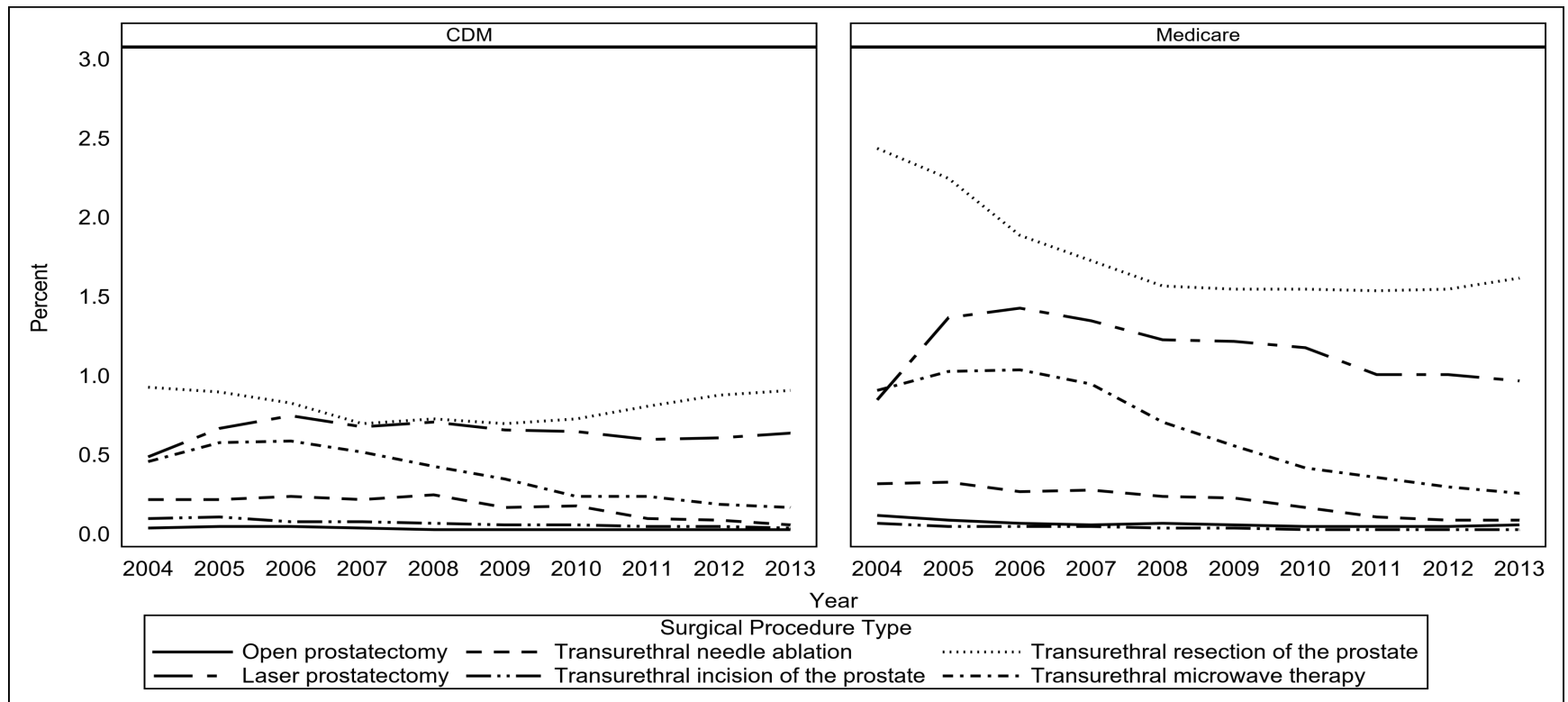


# SURGICAL SELECTION

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- ❖ Amongst **yearly cross section cohort** highest age groups are 80-84 and 75-79
  - 70-74 follows closely
  - 85+ lowest amongst Medicare cohorts
- ❖ Amongst **longitudinal cohort** , highest rate of usage in oldest men (85+ years)
- ❖ Explanation?
  - Oldest cohort may have more men with “silent” LUTS/BPH
  - i.e. more significant sequelae at presentation → no medication and “longshot” surgery

# YEARLY CROSS SECTION SURGERIES



- ❖ LC: TURP and LP most common
- ❖ MISTs (CDM vs Medicare): TUMT (21 vs 14%), TUNA (12% vs 5%)

# LONGITUDINAL COHORT PATIENTS — FIRST TREATMENT

Table 3

Distribution of first treatment within 5 years of follow-up among Optum<sup>®</sup> Clinformatics<sup>®</sup> Data Mart enrollees and Medicare beneficiaries<sup>a</sup> with incident LUTS/BPH in the Longitudinal Cohort, 2009-2013<sup>b</sup> by age

	No treatment		Medication		Surgery	
	N <sup>c</sup>	%	N	%	N	%
<b>Age (years) in 2009</b>						
40 - 49	1,228	67.4	593 <sup>d</sup>	32.6	0	0.0
50 - 59	2,637	58.0	1,891	41.6	22	0.5
60 - 64	2,321	55.0	1,860	44.1	36	0.9
65 - 75	31,460	42.8	40,500	55.2	1,480	2.0
75 - 84	27,780	39.0	41,500	58.2	2,040	2.9
85+	11,720	44.5	13,860	52.6	760	2.9

- ❖ More treatment with age
- ❖ Increase from 60-64 to 65-75
- ❖ Oldest age groups same surgical selection
- ❖ Oldest age group more no treatment?
  - “Silent BPH futility” = cath changes for life

# LIMITATIONS

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- ❖ Accuracy of ICD9 coding by providers
- ❖ Deidentified so unable to link across datasets
- ❖ Correlations not causation
  - Can speculate to causes or etiologies

# CONCLUSION

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- ❖ Surgical rates decreasing over time
- ❖ Peak ages in longitudinal cohort were 75-84 years
- ❖ Younger men more likely to pick MISTs
- ❖ “Silent BPH” with delayed presentation and more severe sequelae may account for the higher RATE of surgery usage amongst the oldest incident men but lower PERCENTAGE of usage amongst oldest cohort