1990 to 2017:
Critical Global Trends in LUTS/BPH

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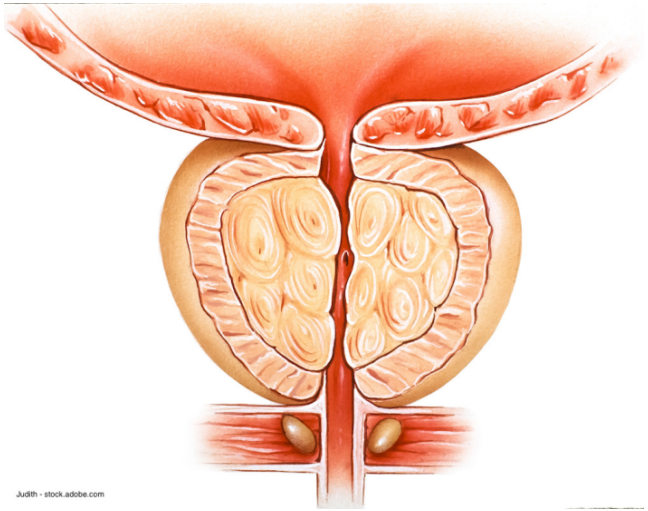
Introduction

- Lower urinary tract symptoms attributed to benign prostatic hyperplasia (LUTS/BPH) has significant impacts on quality of life
- Current analyses of trends have focused on North America and Europe
- As life expectancy increases in low-income countries, so will prevalence of age-related non-fatal diseases



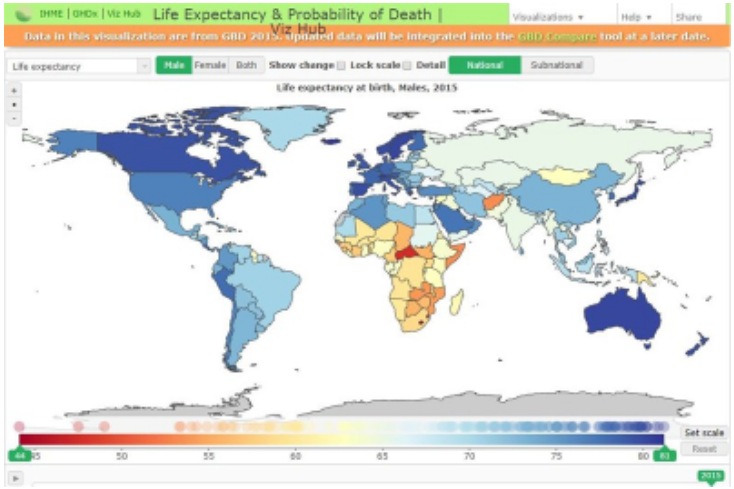
Introduction – Financial Burden of LUTS/BPH

- In the US, 28% of Medicare beneficiaries >65 years old carry the diagnosis of BPH
- Fee-for-service costs (excluding medication costs) of BPH/LUTS in the US were estimated at $785 million in 2013
- Medication costs are similarly high, with 57% of men diagnosed with BPH filling a prescription

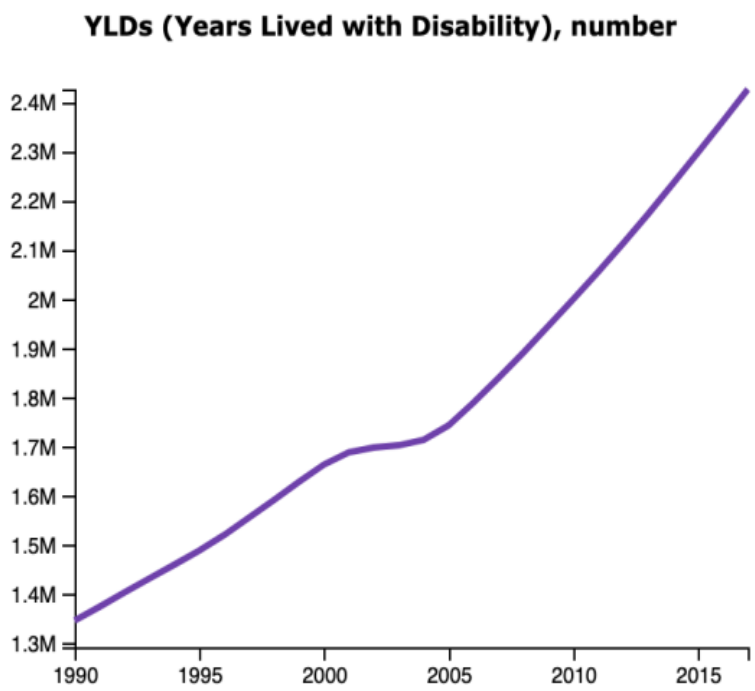
Feinsten L, Matlaga B, National Institute of Diabetes and Digestive and Kidney Diseases. 2018
Welliver C, Feinstein L, Ward JB, et al. The Journal of urology. 2020

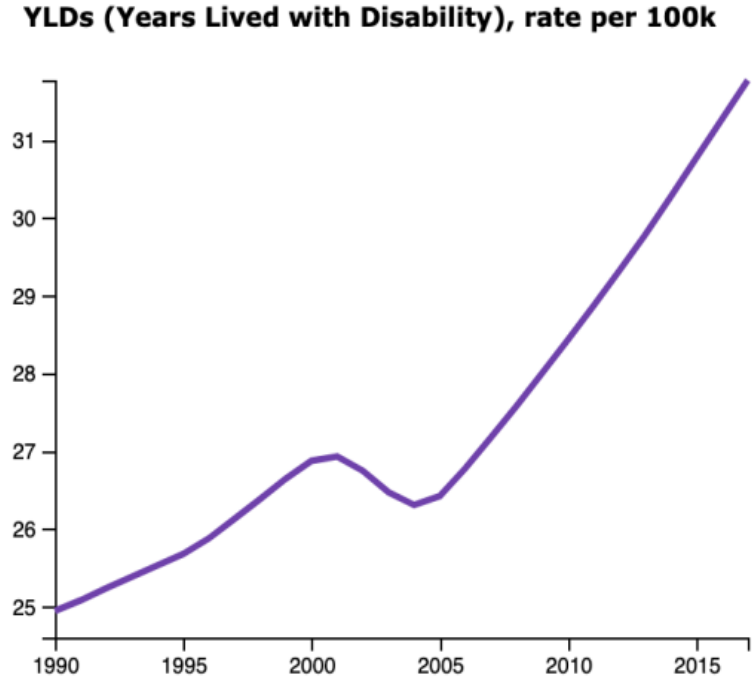
Methods - Global Burden of Disease (GBD) Database

- 1171 worldwide registries and health systems from 1990-2017
- Years Lived with Disease (YLD) were calculated using weighted BPH disease codes (disability weight 0.067)
- We trended estimates for YLDs for LUTS/BPH over 27 years, with subset analyses by sociodemographic (SDI) status



Results: YLDs Attributed to BPH/LUTS



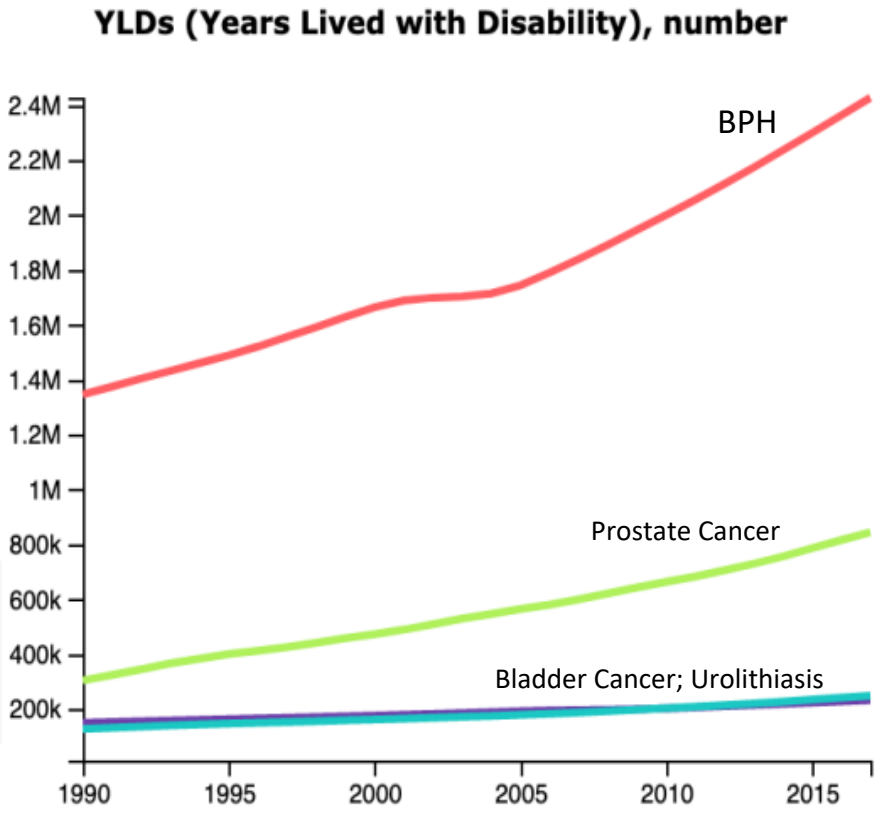


- Global, Both sexes, All Ages, Benign prostatic hyperplasia

Results: BPH/LUTS vs Other Urologic Disease

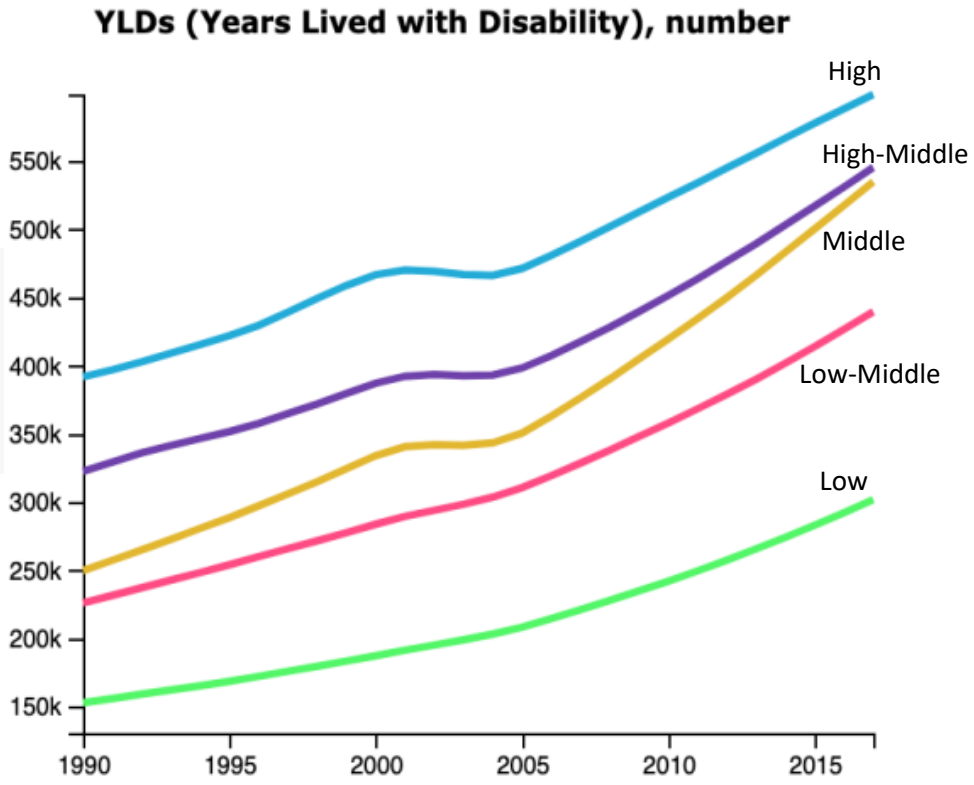
Table 1. Global and United States YLDs 2017 all ages both genders, absolute number. GBD standardized methodology and disability indices used.

	YLD	(CI)
LUTS/BPH	2,427,334	948,607
Prostate Cancer	843,226	531,978
Bladder Cancer	247,041	143,414
Urolithiasis	230,893	78,687
Kidney Cancer	141,048	88,949



Results: BPH/LUTS Stratified by SDI

- High-middle SDI, Both sexes, All Ages, Benign prostatic hyperplasia
- Low-middle SDI, Both sexes, All Ages, Benign prostatic hyperplasia
- Middle SDI, Both sexes, All Ages, Benign prostatic hyperplasia
- Low SDI, Both sexes, All Ages, Benign prostatic hyperplasia
- High SDI, Both sexes, All Ages, Benign prostatic hyperplasia



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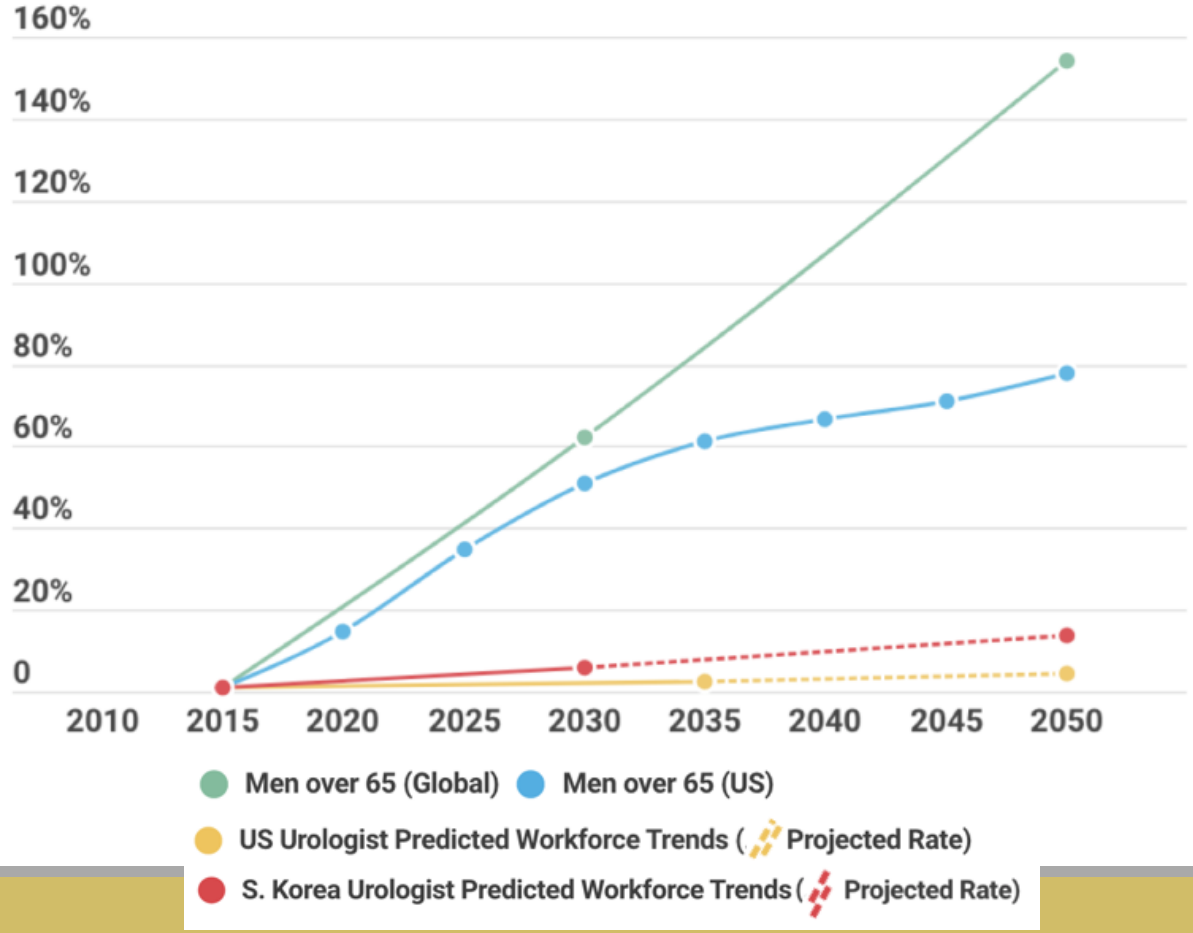
Discussion – Global Trends of LUTS/BPH

- LUTS/BPH is responsible for more disease impact than any other urologic disease
- Men in higher SDI countries are more likely to experience LUTS/BPH
- As lower SDI countries overcome fatal diseases, a similar rise in LUTS/BPH can be expected

Discussion –LUTS/BPH and the Urologic Workforce

Percentage Change in Global Population of Men Over Time as Compared to 1st World Urologic Workforce Trends



Limitations

- Variability in standards of data gathering
- Challenges in non-fatal estimation
  - Identifying true variation of rates of disease
  - Differing systems of defining diseases and measuring symptoms
- Disease severity and medical claims data are generalized from high-income countries
  - Ultimately underestimating YLDs in low- and middle- income countries (disease severity likely higher without alpha-blockers or TURP)

Conclusions

- LUTS/BPH currently represents the largest demand of first-world urology resources and is poised to further accelerate in the future
- The urologic workforce in the United States is becoming inadequate to keep up with increasing demand
- Preventative, complimentary, and cost-effective treatment strategies are crucial to combat these physician-to-patient imbalances

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