

## INTRODUCTION

- Lower urinary tract symptoms attributed to benign prostatic hyperplasia (LUTS/BPH) has significant impacts on quality of life
- As life expectancy increases in low-income countries, so will prevalence of age-related non-fatal diseases
- Current analyses of trends have focused on North America and Europe
- 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 ~\$785 million in 2013
- Medication costs are similarly high, with 57% of men diagnosed with BPH filling a prescription
- Objective: To describe the trend in the impact of LUTS/BPH on a global scale using the Global Burden of Disease (GBD) database.

## MATERIALS & METHODS

- Global Burden of Disease 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) quintile status

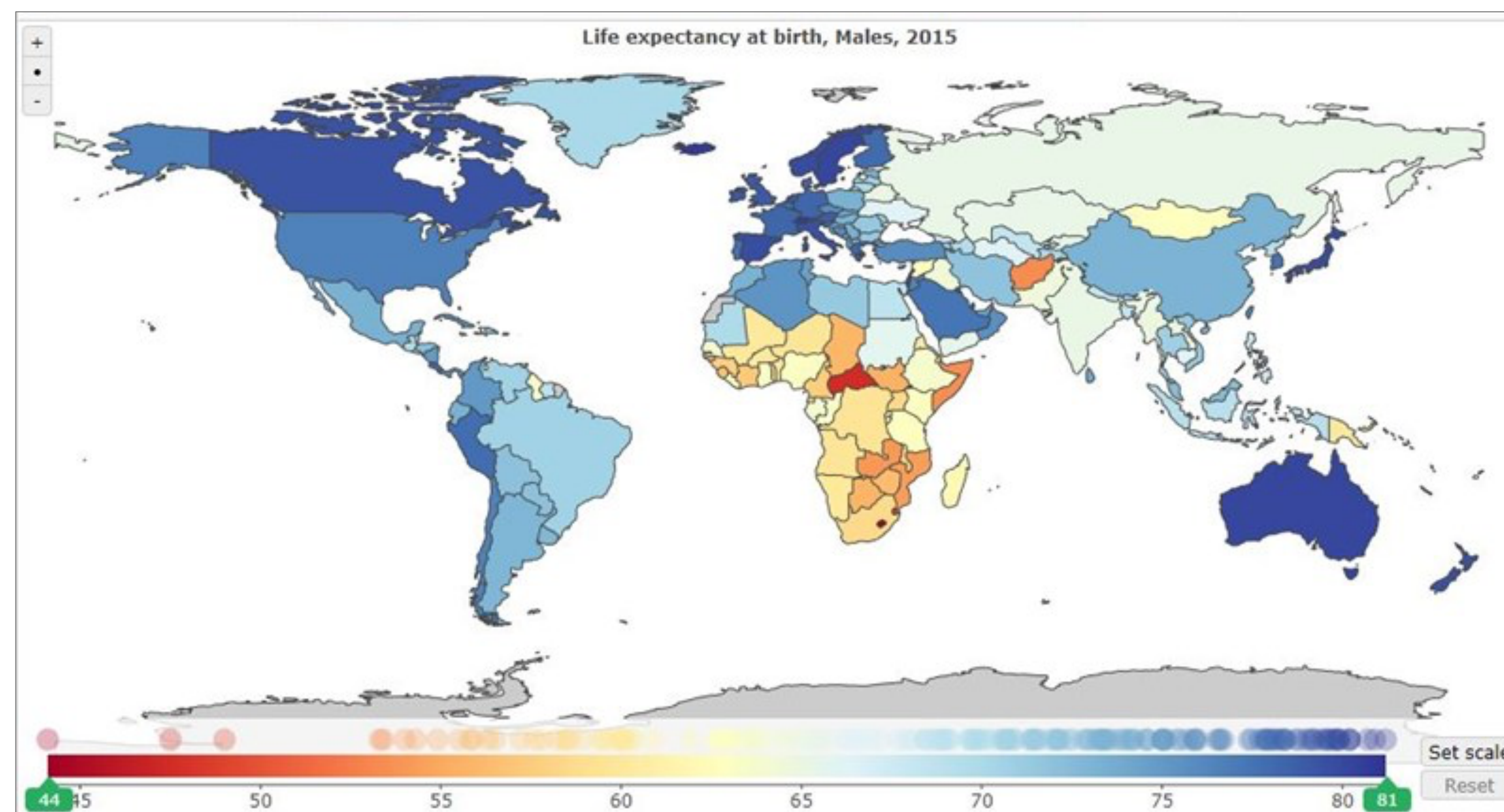


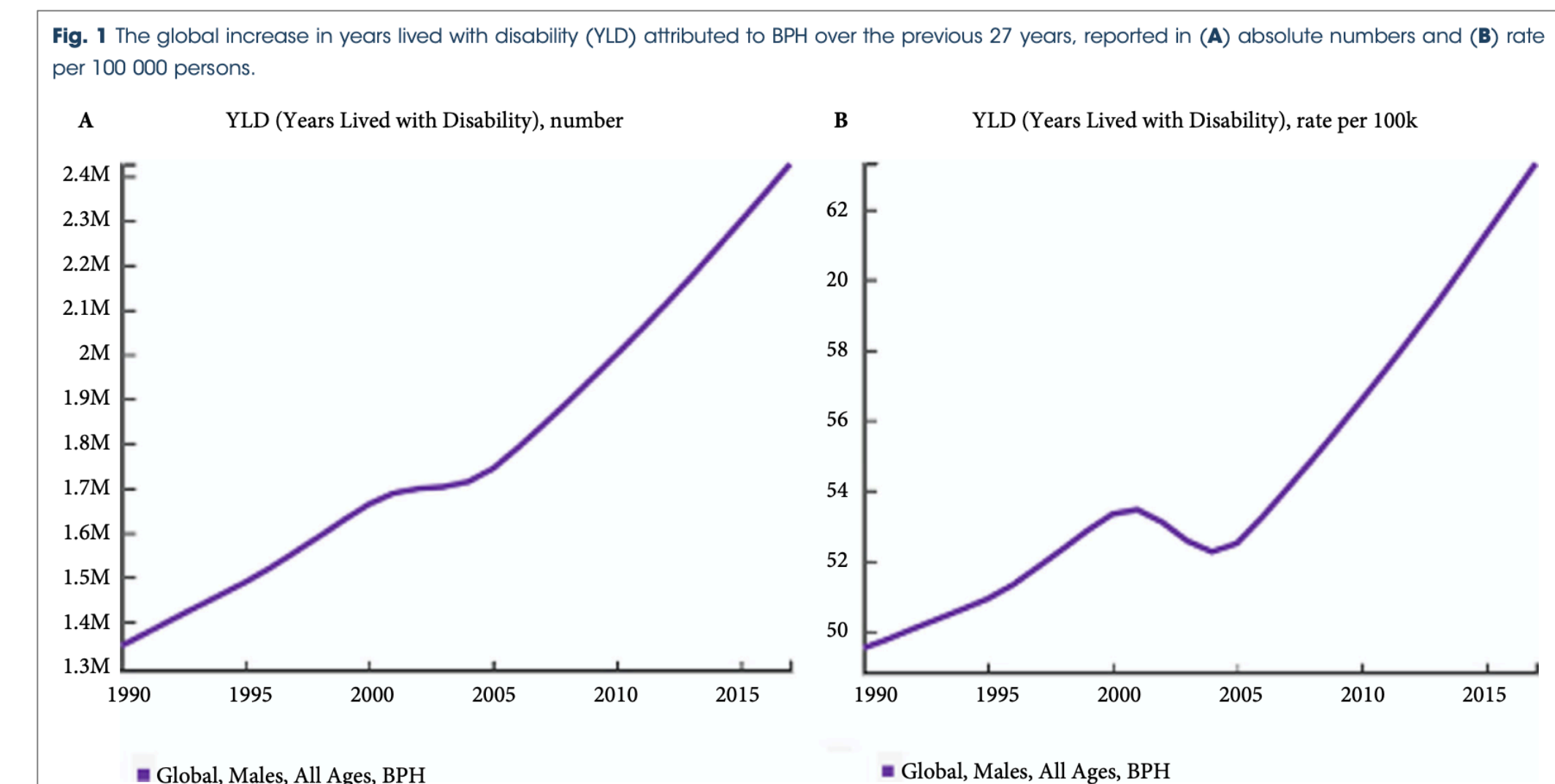
Image 1. Life expectancy at birth for males, worldwide, 2015 (Source: GBD Vizhub)

## RESULTS

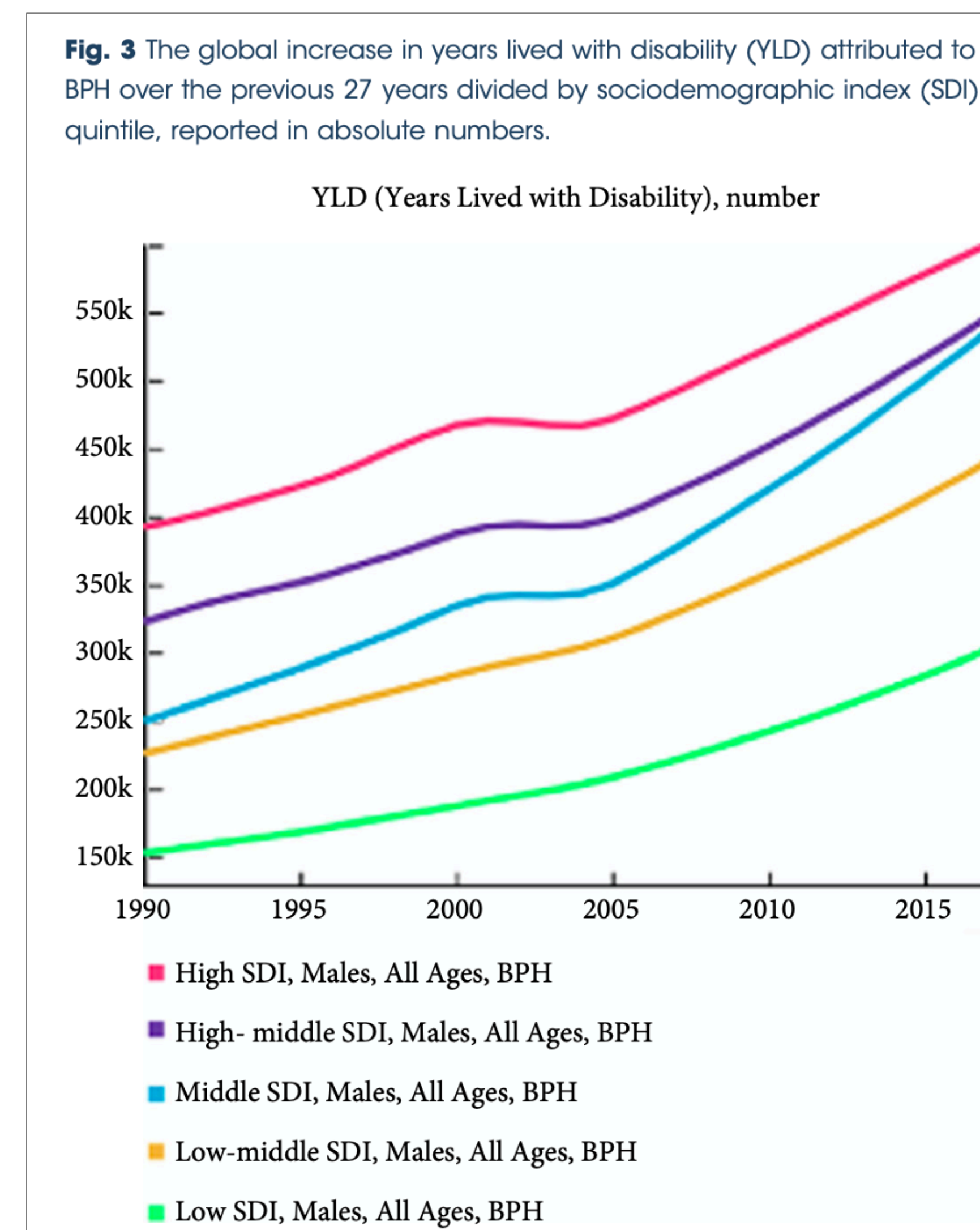
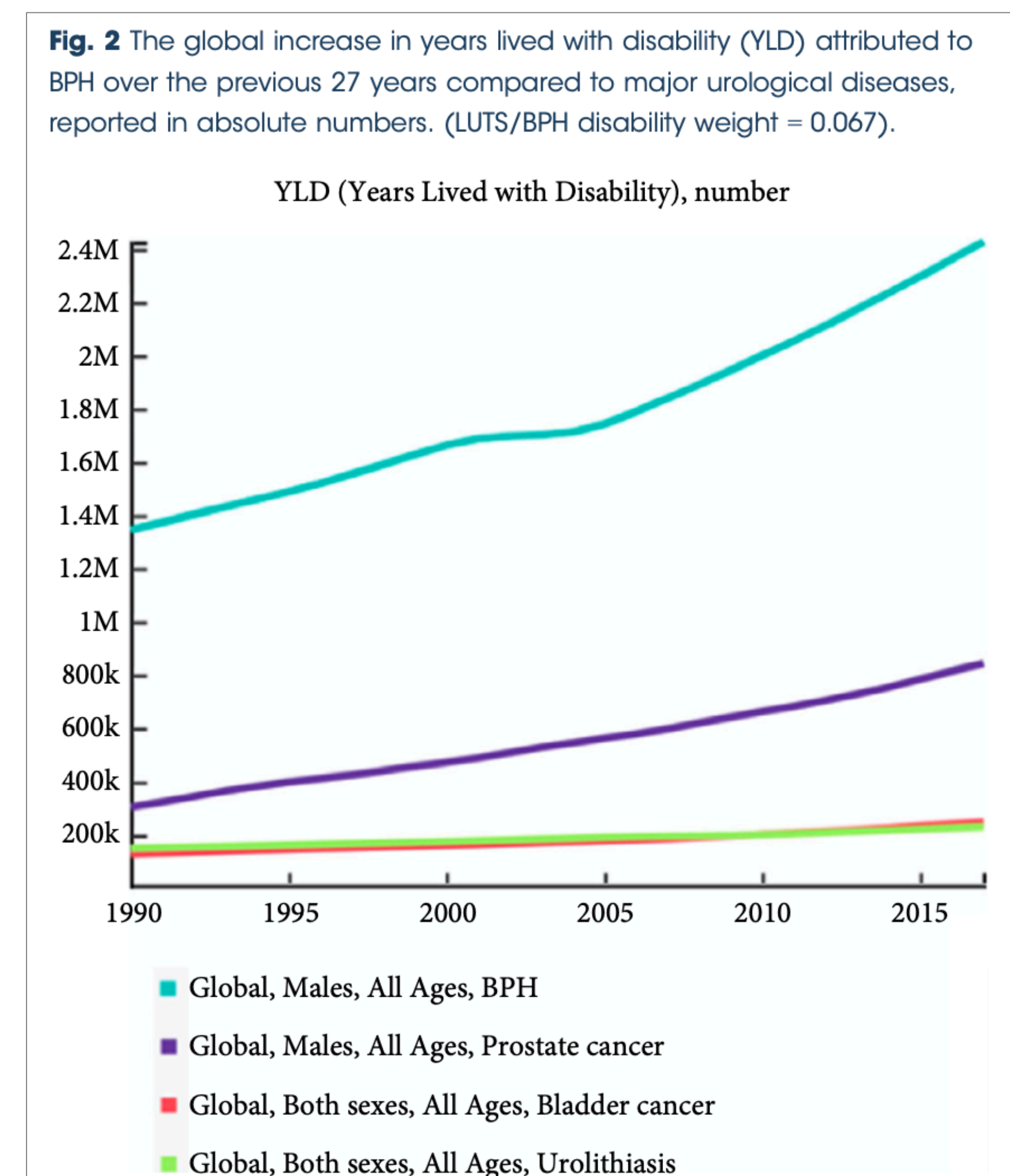
- From 1990 to 2017 the YLD attributed to LUTS/BPH for males of all ages have been rising steadily, even when controlling for population growth (Fig 1a, 1b).
- A total of 2 427 334 YLD were attributed to BPH in 2017 alone, almost three times more than those attributed to the next highest urological disease, prostate cancer (Table 1, Figure 2).

**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  |

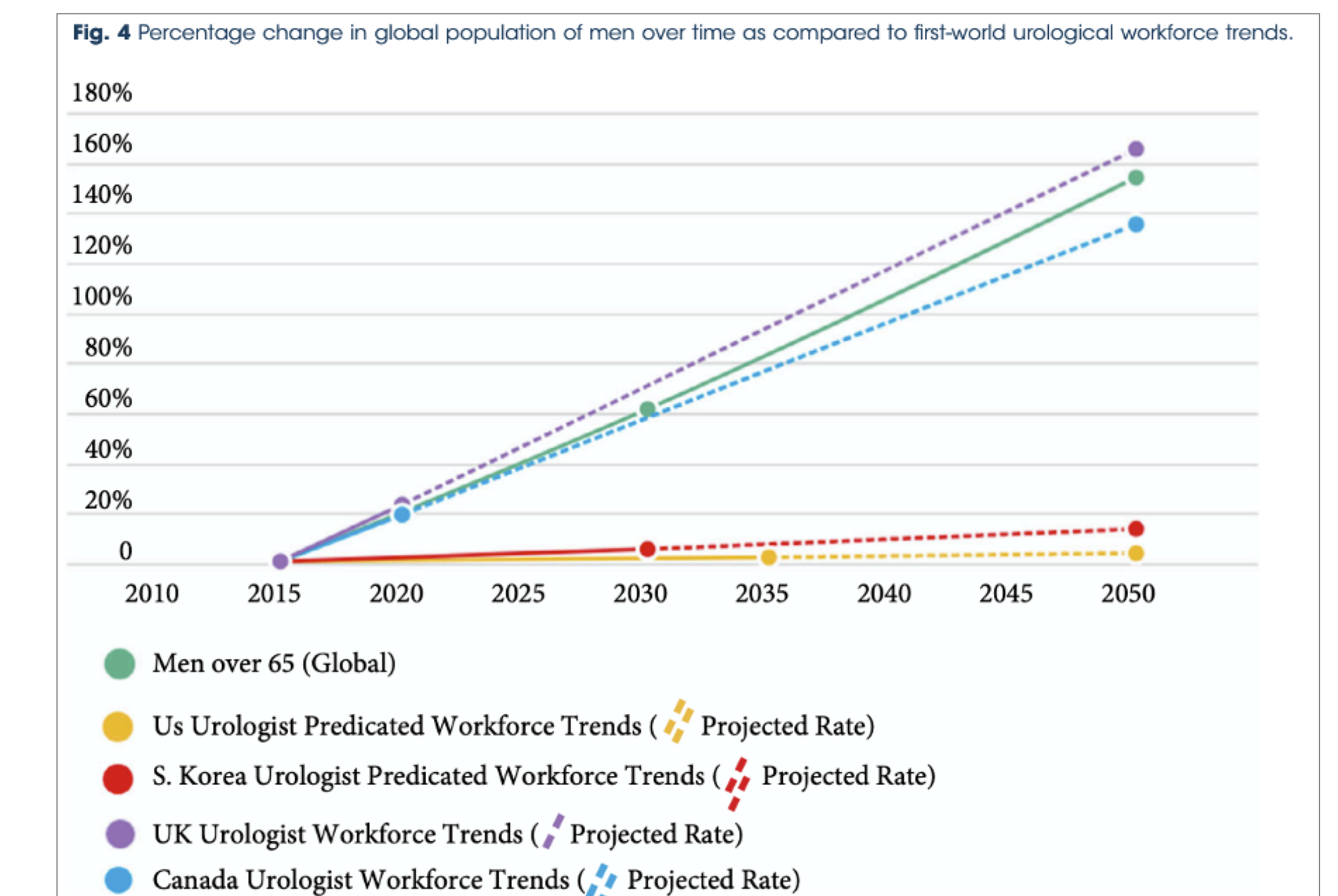


- In global populations, when broken down by SDI quintile, LUTS/BPH show the highest impact when ordered by SDI level, with 25.1% of YLD in the highest quintile compared to 12.2% in the lowest quintile (Fig. 3).



## LIMITATIONS & CONCLUSIONS

- 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
- The urologic workforce in the United States is becoming inadequate to keep up with increasing demand (Figure 4)



- Limitations: Variability in standards of data gathering, non-fatal estimation, and disease severity and medical claims data being generalized from high-income countries
- Preventative, complimentary, and cost-effective treatment strategies are crucial to combat these physician-to-patient imbalances

### Selected References

- Coyne KS, Wein AJ, Tubaro A, et al. The burden of lower urinary tract symptoms: evaluating the effect of LUTS on health-related quality of life, anxiety and depression: EpiLUTS. *BJU international*. 2009;103:4-11.
- Feinstein L, Matlaga B. Urologic Diseases in America. US Department of Health and Human Services. *Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases*. 2018:97-160.
- McKibben MJ, Kirby EW, Langston J, et al. Projecting the urology workforce over the next 20 years. *Urology*. 2016;98:21-26.
- Vos T, Allen C, Arora M, et al. Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*. 2016;388(10053):1545-1602.

### Acknowledgements & Disclosures

Conflicts of Interest: None  
Funding Sources: None  
Acknowledgements: The authors would like to thank the GBD creators and contributors

For questions or the full EndNote bibliography:  
[bryn.launer@cuanschutz.edu](mailto:bryn.launer@cuanschutz.edu)