

Nephrolithiasis Disparity in People with Disabilities

Marlie Elia, MD;
Smita De, MD, PhD;
Manoj Monga, MD



Cleveland Clinic

Conflicts of Interest

- None



People with Disabilities

- 22.2% of US adults are considered to be people with disabilities (PWD) (Courtney-Long 2015).
- PWD are known to face health disparities (Krahn 2015).



Nephrolithiasis in PWD

- Little is known about nephrolithiasis risk in PWD
- Aim: Describe the epidemiology of stone disease within the population of PWD using a nationally-representative cohort



NHANES

- Combined National Health and Nutrition Survey (NHANES) responses from 2013-2016 cycles
- Cohort of respondents >20 yrs who replied to both Kidney and Disability Questionnaires



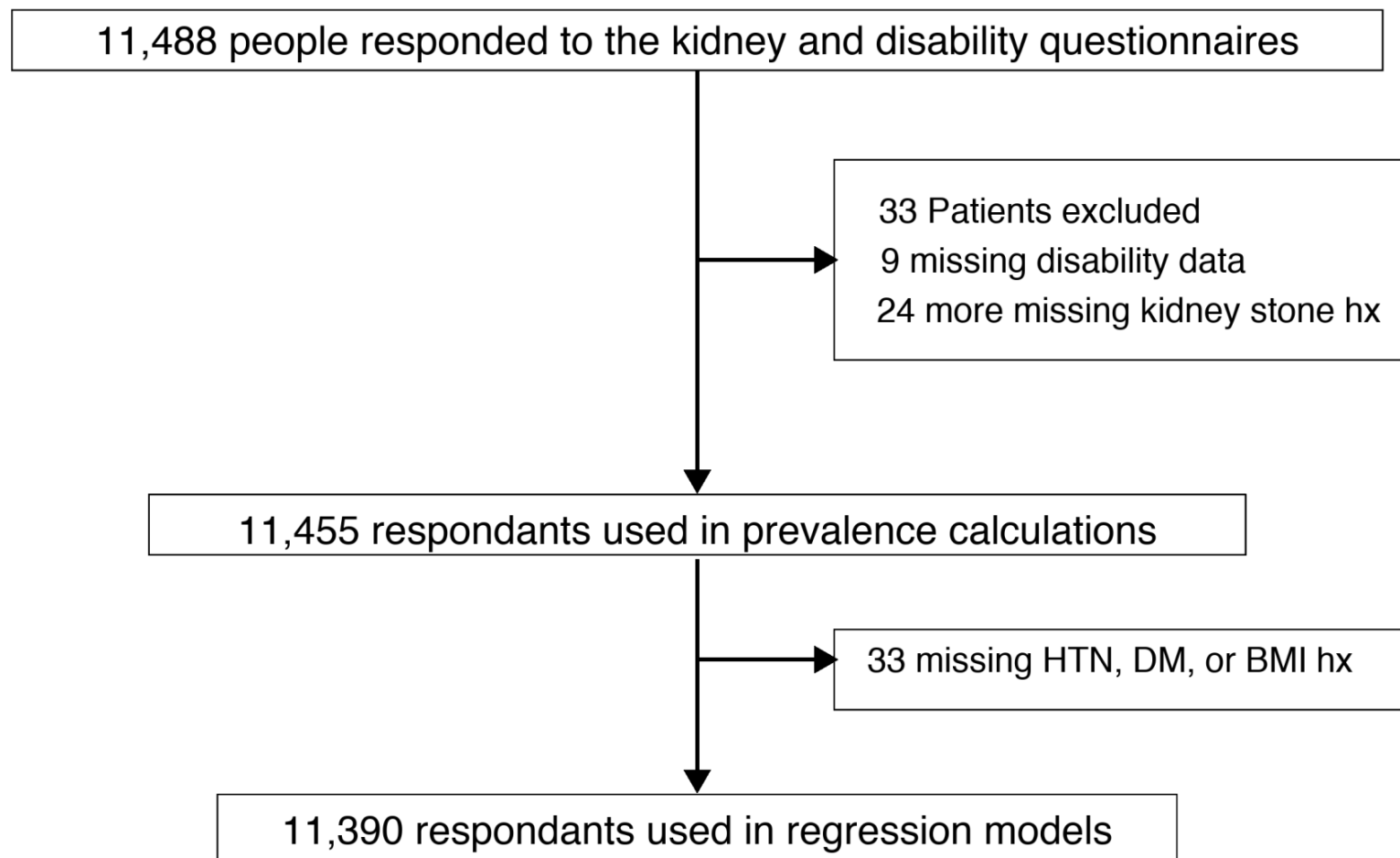
Disability Questionnaire

- Are you deaf, or do you have serious difficulty hearing?”
- “Are you blind, or do you have serious difficulty seeing, even when wearing glasses?”
- “Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?”
- “Do you have serious difficulty walking or climbing stairs?”
- “Do you have difficulty dressing or bathing?”
- “Because of a physical, mental, or emotional condition, do you have difficulty doing errands alone such as visiting a doctor’s office or shopping?”

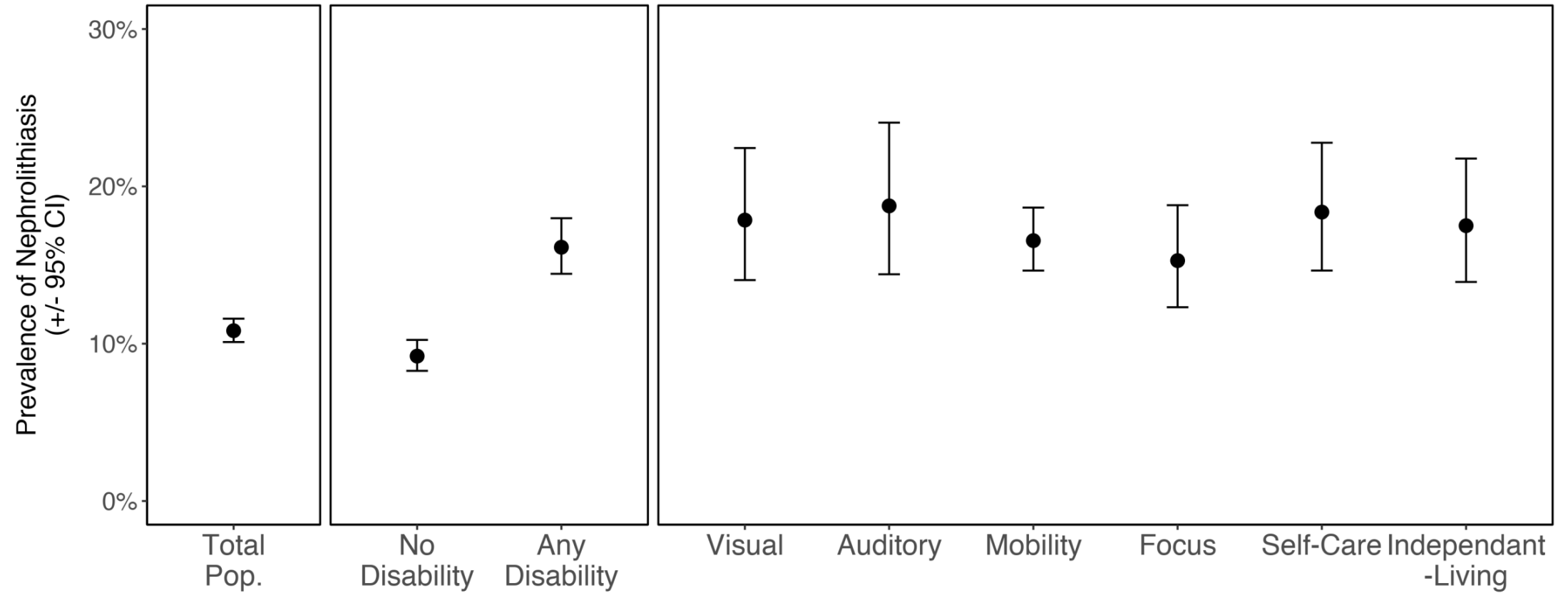
Analysis

- Calculated prevalence rates of nephrolithiasis within PWD
- Calculated portion of stone formers reporting disability
- Created logistic regression models to adjust odds of stone hx for: BMI, HTN, DM, age, race, and disability status

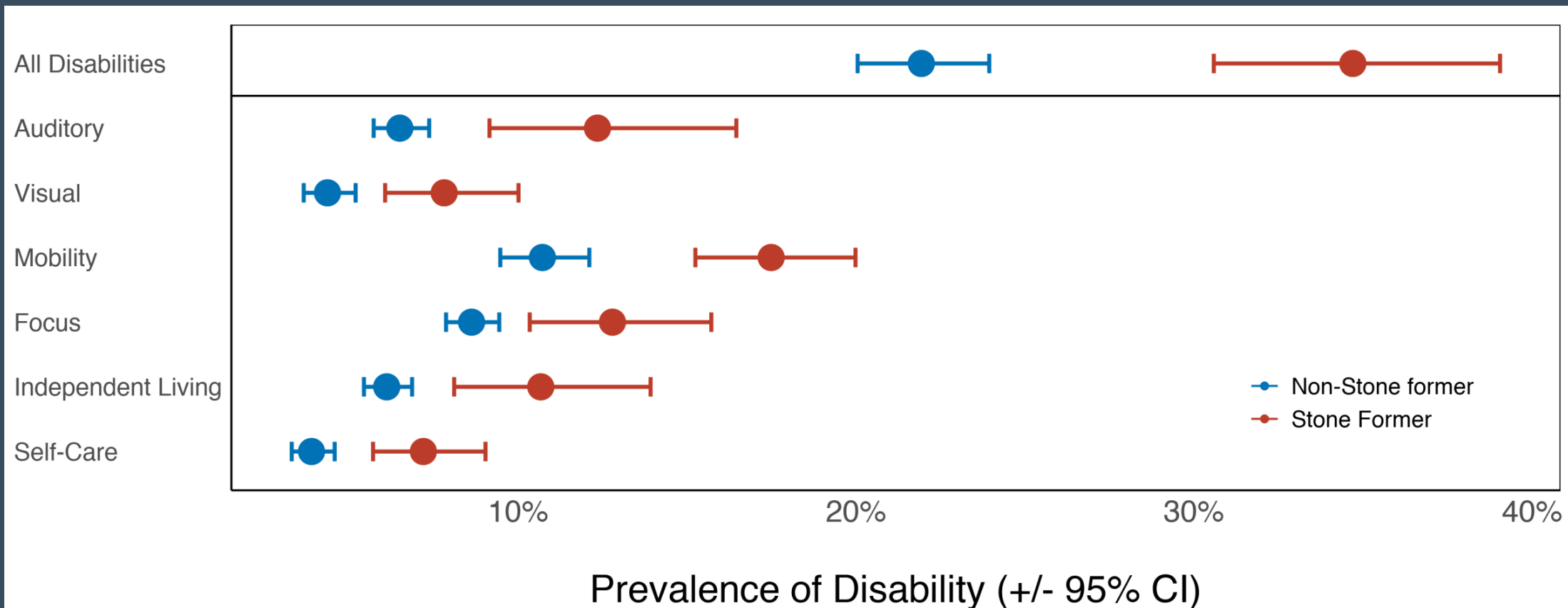
Study Flow



Nephrolithiasis Prevalence



Disability Prevalence



Adjusted Stone Risk by Disability

	Odds Ratio	p-value	95% Confidence Interval
Disability	1.47	0.001	1.18 - 1.84
Visual	1.52	0.026	1.05 - 2.18
Auditory	1.50	0.028	1.05 - 2.14
Mobility	1.31	0.013	1.06 - 1.62
Concentration	1.50	0.010	1.11 - 2.03
Self-care	1.45	0.046	1.01 - 2.08
Independent-Living	1.53	0.014	1.10 - 2.14

Conclusion

- PWD are 34.7% of the US population of stone formers: 8,714,470 people
- The overall risk of nephrolithiasis is elevated in PWD
 - Unadjusted OR 1.97
 - Adjusted OR 1.47



Limitations and Next Steps

- This study is based on a cross-sectional sample and is unable to establish causation
- More research is needed to understand the source of the observed disparities



Acknowledgements

- Jian Bo, Ph.D.
- Collier Wright, M.D.
- Juan Fulla, M.D.



References

Courtney-Long, E. A. et al. Prevalence of Disability and Disability Type Among Adults--United States, 2013. *MMWR Morb Mortal Wkly Rep* **64**, 777-783 (2015).

Krahn, G. L., Walker, D. K. & Correa-De-Araujo, R. Persons with disabilities as an unrecognized health disparity population. *American journal of public health* **105**, S198-S206 (2015).





Every life deserves world class care.