

Urological Health in Women Across the Lifespan: An Interdisciplinary Research Network

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Mission: Raise Awareness of the impact of bladder health in girls and women throughout their lifespan and influence research, education and policy

Abstract

Urologic and kidney problems are common in women and affect their daily life, including physical activity, sexual relations, social life and future health. Urological health in women is still understudied and the underlying mechanisms of female urological dysfunctions are not fully understood. Over a decade ago, The Society for Women's Health Research (SWHR®) recognized the need to have researchers and clinicians work collaboratively to define the current state of knowledge, the gaps, and the recommendations for future research directions. To promote this style of collaboration required careful selection of members, their commitment to frequent face-to-face meetings over several years. Among the goals of the Network are to conduct activities that address gaps such as patient and provider outreach, conducting focused pilot studies, and public educational campaigns to raise awareness at large.



Interdisciplinary Network Meeting December 1, 2015. *L to R:* Candace Parker-Autrey, Stephanie Kielb, Liliana Losada (Network Director), Elizabeth Mueller (Network Chair), Clare Close, Toby Chai, Cindy Admundsen, Matthew Fraser, Margot Damaser, Michael DiSanto. *Absent Network Members:* Roger Dmchowski, Alan Wolfe, George Kuchel

Objectives

- Examine emerging urologic issues specific to women throughout the lifespan
- Identify key mechanisms to address the impact of urologic diseases and related comorbid conditions on women's quality of life
- Work collaboratively towards closing knowledge and research gaps in women's urological health

Methodology

- The Interdisciplinary Network started with a Roundtable discussion among 16 researchers from urology, urogynecology, pediatrics, gerontology, neurology, biomechanical engineering, reconstructive surgery, obstetrics and gynecology, microbiology, immunology, cellular and molecular biology, and epidemiology.
- A report from the meeting containing recommendations will be published.
- Two additional meetings were held in order to identify the Network mission and short and long term objectives and Network products.

Typical Network Timeline

Year 1

- **Network Formation; Elect Chair**
- **Brainstorm ideas, identify knowledge gaps and needs**
- **Establish collaborative relationships**

Years 2-4

- **Plan and implement studies or programs based on gaps and needs**
- **Develop products**
- **Establish collaborative relationships**

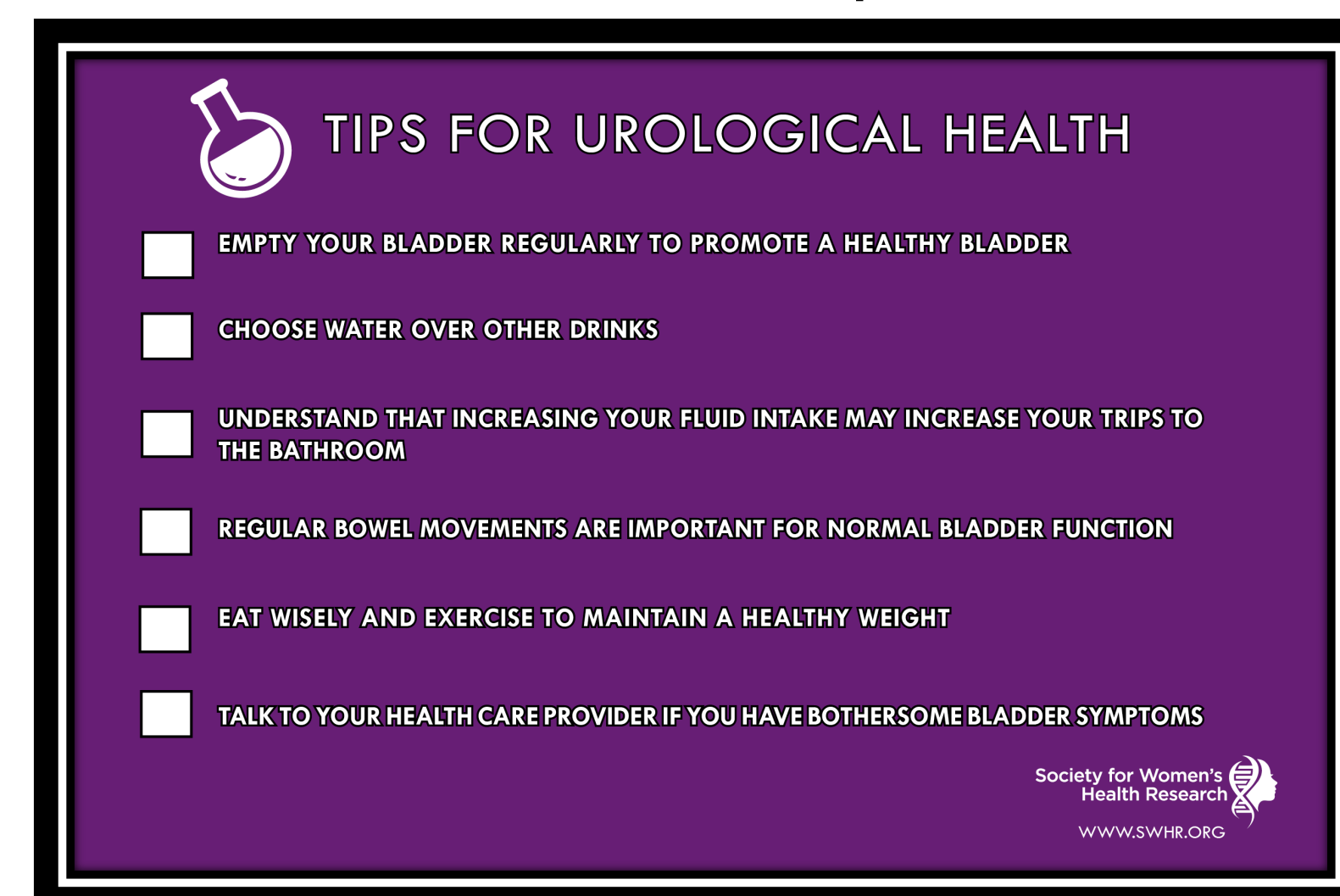
Year 5

- **Finalize products**
- **Evaluate goals and products**
- **Hold symposium to highlight products**

Results

PUBLIC OUTREACH

- Women's Health Week tip sheet



Roundtable Recommendations

A. Basic and Translational Science

- ❖ Develop better animal models to study urologic health and disease across a woman's lifespan:
- ❖ To better reflect the coexisting diseases and outcomes as seen in patients
- ❖ Capture risk factors
- ❖ Identify clinical phenotypes and predictive biomarkers that allow for preclinical model development to define causes and treatment of disease.
- ❖ Determine role of urinary microbiome to:
- ❖ Understand the relationship between normal urinary microbes and those of other anatomic sites through a woman's lifespan.
- ❖ Develop diagnostic tools and therapies based on the future understanding of the urinary microbiome
- ❖ Determine cellular and molecular mechanisms, and genetics across a woman's lifespan to:
- ❖ Understand lower urinary tract health and dysfunction.
- ❖ Establish impact of lifetime events or disease co-morbidities on lower urinary tract function.
- ❖ Define disease subtypes for LUTS.
- ❖ Improve knowledge of human lower urinary tract physiology to:
- ❖ Develop better ways to clarify sensory and motor function in the urethra and bladder
- ❖ Understand the central neurological control of lower urinary tract
- ❖ Understand the role of crosstalk between pelvic viscera
- ❖ Determine the role of biological sex in lower urinary tract health and disease in :
- ❖ Host response to microbes
- ❖ Protection against carcinogenesis
- ❖ Determine sex differences in terms of contribution from urethral muscles towards urethral closure and the relative contributions of vascular, smooth and striated muscles to urethral closure across the lifespan;

B. Clinical

- ❖ Develop ways to improve individual acceptance to lifestyle changes that have been shown to promote bladder health.
- ❖ Develop prevention strategies for LUTS
- ❖ Develop diagnostic markers for specific pathophysiology of LUTS
- ❖ Increase the participation of women with multiple comorbidities including the elderly and minorities in clinical trials
- ❖ Establish biobanks of tissues, blood, and urine across a woman's lifespan

C. Therapies

- ❖ Explore novel therapies such as cell therapy and regenerative medicine
- ❖ Develop rational therapeutic approaches for LUTS based on subtypes and biomarkers (personalized medicine)
- ❖ Examine differential response to same therapies by different people
- ❖ Examine synergistic effects of combination therapies
- ❖ Examine better ways to improve adherence to existing therapies

D. Education

- ❖ Implement professional development for primary and secondary school educators regarding bladder health
- ❖ Promote urinary health education and outreach in schools with community partner engagement
- ❖ Increase crosstalk between clinicians and basic scientists
- ❖ Increase patient literacy, knowledge and engagement on urinary and pelvic floor health
- ❖ Educate medical students, primary care physicians, primary nurse practitioners and pediatricians on urinary health
- ❖ Develop educational campaign tools for lay public on healthy bladder habit

E. Policy/Advocacy

- ❖ Collaborate with subspecialty groups in advocacy
- ❖ Promote evidence-based guidelines in women's urologic health
- ❖ Encourage insurance companies and CMS to reimburse for behavioral therapies for LUTS
- ❖ Develop a US-based public toilet Map, may be as an app if non-existent, in conjunction with green spaces
- ❖ Mandate building code changes to make more washrooms for women in all buildings in the US
- ❖ Develop workplace recommendations to facilitate healthy bladder behavior
- ❖ Modify primary and secondary school schedules to allow healthy bladder behavior
- ❖ Increase availability and accessibility to public restrooms

Results

PUBLIC OUTREACH

- Huffington Post Blog



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SWHR®

A national nonprofit organization based in Washington, D.C., and founded in 1990, is widely recognized as the thought leader in research on biological differences in disease and is dedicated to transforming women's health through science, advocacy and education.