

Introduction to the National Urology Research Agenda: A Roadmap for Priorities in Urological Disease Research

THE American Urological Association Foundation launched an ambitious initiative to define national research priorities for the field of urology. This major effort was commissioned by the AUA Foundation Board of Directors to define urology research priorities provided by the urology research community, reverse the decline in urology research funding and progress, and promote an increase in urological disease research funding and activity. The end point is the creation of the AUA Foundation National Urology Research Agenda: 2010 (NURA) which will serve as a roadmap for articulating basic and clinical research as well as the research infrastructure priorities in urology, thereby promoting substantial improvements in patient care. There is a tremendous need for such an initiative and we have much to gain from this effort.

Most basic research focusing on human health in the United States is funded by the National Institutes of Health (NIH). The NIH budget has been essentially flat for the last 9 years and, when inflation is considered, the budget has actually declined significantly in real terms since 2003. This is a large contraction that has negatively impacted most academic fields that rely on NIH funding.

Although all health related biomedical research in the United States has been adversely affected by the funding climate, urology has been particularly hard hit because the field has historically been under funded. This decreased funding is particularly evident in light of the immense burden of urological disease on the nation, which is increasing dramatically as the United States population ages.

NURA seeks not only to identify areas of scientific priority and opportunity, but also to emphasize the importance of multidisciplinary activities and define areas of multidisciplinary potential. This is critical to “growing” the field and to increasing competitiveness for funding. NURA is organized into 11 distinct disease focused research priority areas and 1 research infrastructure area:

- Benign Prostatic Hyperplasia
- Bladder Cancer

- Chronic Pelvic Pain/Prostatitis/Interstitial Cystitis/ Bladder Pain Syndrome
- Developmental Anomalies
- Kidney Cancer
- Male Reproduction and Infertility
- Nephrolithiasis
- Prostate Cancer
- Sexual Dysfunction
- Urinary Incontinence/Overactive Bladder/Neurogenic Bladder
- Urinary Tract Infections
- Research Infrastructure

Each of these areas delineates major priorities and approaches that must be addressed to advance progress in that area. Also described are multidisciplinary opportunities that may exist in each area.

Common themes that span these multiple research and research infrastructure areas have emerged. Among these are the needs for

- Validated biomarkers across all urological areas, including cancer and nonmalignant urological diseases
- Comparative effectiveness research to provide concrete guidelines on the most appropriate and cost-effective therapeutic interventions
- Basic exploratory research to increase understanding of the cellular and molecular basis of normal and abnormal structure and function of lower urinary tract tissue
- Understanding the parameters that underlie ethnic disparities
- Biospecimen repositories of well documented diseased and normal tissue
- Animal and cellular models that effectively model the human condition
- Understanding the relationship between urological diseases and comorbidities including diabetes, metabolic syndrome and obesity
- Attracting new individuals into the field
- Nurturing the careers of “rising star” MD and non-MD scientists

- Developing and enhancing urology centers of excellence
- Developing urology research repositories and databases
- Increasing financial support from government, industry and philanthropy

From the start, a concerted effort was made to ensure that NURA was developed with representation from basic, translational and clinical science across the spectrum of urological diseases and conditions. Also essential to the success and validity of this effort is the requirement that the priority areas developed for NURA align with major focus areas of the NIH and other major federal agencies, as well as those of other major stakeholders.

To achieve assurance, a summit meeting was held in September 2009 that brought together 75 leading clinicians, academic researchers, patient advocates and industry representatives to discuss NURA, and provide input and concurrence. The 3 levels of discussion solicited at the summit meeting were 1) priority topics within each research area, 2) priority themes that bridge 2 or more research areas and 3) priority “super themes” that span multiple research areas and disciplines. At the summit meeting opportunities to open multidisciplinary collaboration within and between each priority area were discussed.

Several post-summit meetings were held to define overarching areas that would stimulate development of transformative multidisciplinary urology research efforts, or super themes, that will jumpstart progress in curing or controlling multiple urological diseases and conditions, and stimulate allocation of resources. The summit and post-summit meeting activities focused on articulating critical next steps to accomplish the goals of NURA.

The focus of the super themes will be on processes or pathways that underlie multiple urological and nonurological disease states for leveraging scientific progress to fill fundamental knowledge gaps in urology, and increase potential funding opportunities for urological researchers by broadening the pool of collaborators and funding sources. The 7 super themes developed were

1. Regulatory networks of growth and differentiation, and their role in cancerous and noncancerous states of the urinary tract
2. Inflammation and immune function, and their causal influence on cancerous and other abnormal urinary tract states
3. Pain, and its etiology and management in urinary tract disorders
4. Coexisting conditions and their role in the etiology, progression, prevention and treatment of urinary tract disorders and dysfunction
5. Neoplasia
6. Health services research
7. Research infrastructure

The future of urological research lies not only in identifying critical priorities, but also in delineating how those priorities intersect with the broader research and clinical communities. Taken together, the individual priorities provide the necessary background that will inform decisions on how to develop multidisciplinary collaborations. Thus, the major recurring emphasis throughout NURA is the development and fostering of multidisciplinary research. This emphasis will allow the urology research community to capitalize on synergies that arise when individuals from diverse disciplines work together.

Since its inception, NURA has been considered a living document. It will undergo an annual review and revision process to ensure that it remains current and responsive to progress and evolving trends. NURA will be implemented through a series of clear, concise and compelling messages intended to be used as targeted tools that will allow the research, clinical and advocacy communities to realize the goal of increasing awareness, research activity and funding in urology research. The complete monograph of NURA will be available on the AUA Foundation website (www.urologyhealth.org).

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