

## THE BURDEN OF UROLOGIC DISEASES IN AMERICA

In 1976 Lattimer attested to the acute need for data collection about urology.<sup>1</sup> At the time there were no estimates on the number of urological procedures performed in the United States. Twenty-nine years later the Urologic Diseases in America (UDA) project significantly advances our understanding of epidemiology and resource use in the field. In the March issue and this issue of *The Journal* researchers from the UDA project present utilization and economic trends in urinary incontinence, benign prostatic hyperplasia, urinary tract infection and urolithiasis.

Comprehensive data tables and figures can be found in the UDA Interim Compendium, available online at [www.uda.niddk.nih.gov](http://www.uda.niddk.nih.gov). Several findings deserve reiteration. As discussed by Griebing (pages 1281 and 1288) in this issue of *The Journal*, data from surveys conducted by the National Center for Health Statistics reveal that in 2000 there were approximately 404,000 inpatient stays and 1.7 million emergency room visits for urinary tract infections, accounting for 5.4% of all inpatient stays and 1.6% of all emergency room visits. There were more than 175,000 inpatient stays for urolithiasis, accounting for an additional 2.4% of all hospitalizations.<sup>2</sup> Given the central role that the federal government plays in financing health care for seniors, UDA researchers examined the burden posed by urological conditions using data from the Centers for Medicare and Medicaid Services. Urinary tract infection was the most costly and resource intensive condition studied, causing more than 1.8 million physician office visits among Medicare beneficiaries at least 65 years old in 1998. Total Medicare expenditures for urinary tract infections in all venues of care amounted to more than \$1.4 billion, exclusive of medication costs. Next most costly was urinary incontinence. In this issue of *The Journal* Stothers (page 1302) and Thom (page 1295) et al report over 560,000 physician office visits and total costs of more than \$273 million, exclusive of the costs of medications and personal care items such as absorbent pads, for urinary incontinence.

The UDA project also addresses the limitations of existing data sources. Currently, there is no national surveillance system that allows an overall evaluation of urological diseases. This general problem is not endemic only to urology, as researchers from related projects cite the perils of data compilation from fragmented sources.<sup>3</sup> Although using multiple data sources allows for breadth of scope, it hinders comparability of data among population samples. Thus, UDA analysts took great care to specify denominator populations when examining data. Another obstacle that tempered UDA efforts was closed access to various federally funded, privately managed databases (such as the Olmsted County Study and the Physicians' Health Study), many rich in detail. Efforts to encourage public release of such data recently gained momentum with the Medicare Modernization Act of 2003, in which Section 723, "Chronically Ill Medicare Beneficiary Research, Data, Demonstration Strategy," commits the Department of Health and Human Services to use existing data better and identify data gaps. Even with accessible data from Medicare, the National Center for Health Statistics, the Veterans Health Administration, and private sources, UDA was unable to characterize fully the burden of less frequent, albeit costly, urological conditions such as bladder stones and pyelonephritis.

Analyses of 2 populations posed significant challenges. First, there is a notable scarcity of data for pediatric urology, particularly on the costs of pharmaceutical and medical ser-

vices. In many cases 5 years of data were collapsed to produce reliable national estimates, thereby precluding identification of demographic and temporal trends. Second, small sample sizes diminished the use of national databases when comparing rates of resource use for non-black minorities. The large size of Medicare datasets moderated this problem somewhat but racial and ethnic categories were expanded to include Hispanics, Asians and North American Natives only after 1994, allowing few time points at which to compare data.

The ultimate success of the UDA project lies in whether data can be applied to improve the health status of populations and prevent adverse health outcomes. In meeting its broad mandate to define the burden of the major urological conditions, UDA represents the first step in using health services data to improve care. To improve a system, a clear understanding of its current state is necessary. However, subsequent steps are needed to fulfill the promise of a data driven approach to quality improvement.

If the National Institute of Diabetes and Digestive and Kidney Diseases supports an extension of the UDA project, it could serve the public interest by focusing analysis on critical policy issues facing urology, such as the diffusion of new technology and the impact of clinical guidelines in urology. These policy issues would benefit from using targeted analyses involving multivariate modeling of outcome measures and relative risks. Making urological health services data available via an interactive website for use by researchers and policy makers is another valuable service a successor project could provide to the public.

Each article in this series concludes with a list of disease specific recommendations set forth by the authors in collaboration with a panel of clinical experts. Several suggestions were universal. One ambition is the creation of a urology module to accompany ongoing national surveys to allow more robust analyses of our specialty. Other valuable suggestions include integration of quality of life measures into existing surveillance systems, such as the National Health and Nutrition Examination Survey; expansion of types of data collected; controlled analyses of risk factors and predictors; and making available data from federally funded registries.<sup>4,5</sup>

It would also benefit research quality if disease definitions in data collection were more specific: Pearle et al distinguish utilization trends between upper and lower tract stones,<sup>2</sup> and Thom and Stothers et al differentiate among stress, urge and mixed incontinence. UDA authors stressed the importance of assessing how diagnostic and therapeutic tools can be improved to minimize direct (treatment) and indirect (time lost from work) costs. For example, in this issue of *The Journal* Wei et al (page 1256) and Thom et al discuss the need for long-term studies to document the longevity of therapeutic effectiveness for benign prostatic hyperplasia and urinary incontinence, respectively (eg surgical outcomes of prostatectomy and pubovaginal sling). Griebing and Pearle et al<sup>2</sup> emphasize the need for studies that document the frequency and efficacy of preventive measures, considering costs, for urinary tract infections and urolithiasis. Finally, there is a need for more advanced epidemiological analyses of medical correlates of urinary incontinence, urinary tract infections and benign prostatic hyperplasia.

We should aim to improve the scientific evidence for health care decision making with the goal of delivering high quality care. Data from Urologic Diseases in America can be a mainstay in monitoring and improving the quality of urological care. Collaborative action, in the form of epidemiological

research and heightened national urological surveillance, is needed to make this a reality.

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