

Diabetes in the Department of Veterans Affairs

Gayle E. Reiber, PhD, MPH^{1,2,4,5}
Edward J. Boyko, MD, MPH^{1,3,4,5,6}
Charles Maynard, PhD^{1,5}

Thomas D. Koepsell, MD, MPH^{1,4,5,6}
Leonard M. Pogach, MD, MBA^{7,8}

A core mission of the Department of Veterans Affairs (VA) Epidemiologic Research and Information Centers (ERICs) is to contribute to knowledge on the frequency and causes of health conditions and their outcomes in U.S. veterans. The Seattle ERIC selected the growing burden of diabetes in veterans as a priority area and with our colleagues prepared this supplement. Our goals are 1) to provide an overview of VA services, benefits, and diabetes advances to the diabetes community and 2) to describe research findings based on our veterans with diabetes.

The VA is the second largest of the 15 U.S. cabinet departments and operates nationwide programs for health care, financial assistance, and burial benefits. VA 2003 budget projections included \$32.8 billion for benefits, \$25.9 billion for health care, and \$909 million for all VA construction, administration, and cemetery operations (1).

Veterans have a distinct sociodemographic profile that reflects their entry into military service in times of peace and conflict. Among those discharged from military service (veterans), the priority for VA health care goes first to those with service-connected disabilities and then to others based on income and medical

need. VA financial benefits are provided to 3.3 million people. About 2.7 million of them are veterans, and the remainder are spouses, children, and parents of deceased veterans. Benefits include disability compensation, death compensation, and pensions.

A VA mission is to ensure that the health care needs of America's veterans are served by providing primary care, specialized care, and related medical and social support services. The VA employs ~180,000 individuals who work in 163 medical centers, 800 community and facility-based clinics, 40 residential facilities, and 135 nursing homes.

A number of events over the last 30 years have shaped the VA diabetes care program (Table 1). VA clinicians and researchers have also helped shape the diabetes agenda in the U.S. In 2002, ~4.5 million of the 26 million living veterans (17%) received VA health care. VA treated 564,700 veterans in VA and contract hospitals and registered 46.5 million outpatient visits. VA has experienced unprecedented growth in medical system workloads over the past few years. The number of patients treated increased 9.5% between 2001 and 2002.

VA's health care education and training programs help to assure an adequate

supply of clinical care providers for veterans and the nation. The VA manages the largest medical education and health professions training program in the U.S. VA facilities are affiliated with 107 medical schools, 55 dental schools, and >1,200 other U.S. schools that train health professionals. More than 81,000 health professionals are trained in VA facilities each year (1).

The VA research program contributes to the nation's knowledge about disease and disability. VA scientists are contributing to diabetes research on topics including genetics, etiology, diagnosis, therapy, epidemiology, health services, and rehabilitation.

The articles in this supplement cover a wide range of diabetes topics. We begin with two articles that describe the veterans served by the VA. In the first article, we identified VA diabetes prevalence, behavioral risk factors, and comorbidity based on VA administrative data and self-reported diabetes data from a nationwide telephone survey, the Behavioral Risk Factor Surveillance System (BRFSS). The next article is a methodologic report on computing the VA diabetes prevalence based on the rich diabetes epidemiology cohort (DEpiC), which includes VA administrative patient data, Medicare claims data, pharmacy and laboratory records, and a veteran survey. The strategies used to enumerate diabetes prevalence in a dynamic cohort will be relevant to health maintenance organizations (HMOs) and the insurance industry.

Next follows an article describing the wealth of data resources available to qualified investigators to conduct research on diabetes and other chronic diseases. The next five articles address several major diabetes complications, such as cardiovascular disease, lower-limb amputation, and renal and eye complications. They convey the burdens experienced by veterans with these diabetes complications and suggest areas where more aggressive management of risk factors may be warranted. They are followed by an article on the Diabetes Quality Enhancement Research Initiative (QUERI-DM), which sets an

From the ¹Seattle Epidemiologic Research and Information Center, Veterans Affairs Puget Sound Health Care System, Seattle, Washington; ²Health Services Research and Development, Veterans Affairs Puget Sound Health Care System, Seattle, Washington; ³Primary and Specialty Medical Care Service, Veterans Affairs Puget Sound Health Care System, Seattle, Washington; the ⁴Department of Epidemiology, University of Washington, Seattle, Washington; the ⁵Department of Health Services, University of Washington, Seattle, Washington; the ⁶Department of Medicine, University of Washington, Seattle, Washington; ⁷VA New Jersey Health Care System, East Orange, New Jersey; and the ⁸University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark, New Jersey.

Address correspondence and reprint requests to Gayle E. Reiber, MPH, PhD, VA Puget Sound Health Care System (152), 1660 South Columbian Way, Seattle, WA 98108. E-mail: greiber@u.washington.edu.

Received for publication 1 July 2003 and accepted 25 July 2003.

Funding for this supplement was provided by The Seattle Epidemiologic Research and Information Center and the VA Cooperative Studies Program.

Abbreviations: ERIC, Epidemiologic Research and Information Center; VA, Department of Veterans Affairs.

A table elsewhere in this issue shows conventional and Système International (SI) units and conversion factors for many substances.

© 2004 by the American Diabetes Association.

Table 1—Events in the last 30 years that have shaped the VA Diabetes Care Program

Year	Event
1974	The Diabetes Mellitus Interagency Coordinating Committee was congressionally mandated to coordinate research, education, and public service activities relating to diabetes and its complications. The Department of Veterans Affairs is one of the 23 federal organizations involved.
1987	The Diabetes Advisory Field Group was established to make recommendations regarding diabetes care. The first VA Diabetes Education program was recognized by the American Diabetes Association (ADA) and the VA was the first federal program to gain this ADA recognition.
1995	“Vision for Change: A Plan to Restructure the Veterans Health Administration.” This reformation of the Department of Veterans Affairs resulted in decentralizing, reducing inpatient capacity, reallocating resources to ambulatory care, and simplifying determination of veteran eligibility for care (2). Between 1995 and 2001, there was a 61% decline in VA beds, a 10% decline in staff, and a 41% increase in patients.
1995	The Health Care Analysis and Information group conducts a burden of illness study of diabetes using VA data sources. Pharmacy files identified 12.5% of outpatients received hypoglycemic medications or home glucose monitoring supplies and accounted for 25% of all VA pharmacy costs (3).
1996	VA Performance Measures were established to permit benchmarking of diabetes outcomes among VA medical facilities. The VA was the first national organization to mandate standardization of HbA _{1c} testing.
1996	The VA Diabetes Program was established to improve the health of veterans with diabetes by decreasing the incidence of adverse health outcomes. Strategies for implementation included systems-level integration of guidelines, performance measurements, and data feedback to promote the increased use of evidence-based preventive and treatment processes. http://www.va.gov/diabetes .

agenda of issues to guide VA diabetes quality improvement initiatives.

The next article presents the findings from a group-randomized trial providing synthesized state-of-the-art feedback to primary care providers who treat veterans with diabetes in seven intervention firms; the article compares improvements in patient outcomes with those of control firms. The next two articles emphasize cost considerations, the first computing inpatient and outpatient utilization and cost, excluding outpatient pharmacy costs. The second addresses pharmacy costs and shows how the VA was able to achieve improved glycemic control in patients with diabetes. Improvements in HbA_{1c} levels were associated with increases in pharmacy costs attributed to diabetes medications and supplies.

Next are two companion articles. The first article describes the design and decision-making process used in developing VA and Department of Defense guidelines for patients with diabetes. The second article describes how evidence-based guidelines were linked to the development of performance measures. The re-

sultant implementation-of-accountability measures improved both the care-delivery process and intermediate diabetes outcomes. The final article describes diabetes research in the VA during two time intervals and highlights research and development opportunities.

The VA has made advances in the quality of care provided to veterans, including those with diabetes. There are still many opportunities for improvement. We hope that by making the information in this supplement widely available, more researchers will be drawn to investigate this area and the quality of diabetes care for this deserving population will continue to improve.

Acknowledgments—The authors wish to thank Kristin Bonacker, BA, for her invaluable assistance during the development of this supplement. We thank the editorial team of *Diabetes Care* for collaborating with us on this supplement.

References

1. VA Fact Sheet: *Facts about the Department of Veterans Affairs* [article online], 2003. Available from <http://www.va.gov/opa/fact/docs/vafacts.htm>. Accessed 30 April 2003
2. Iglehart JK: Health policy report: reform of the Veterans Affairs Health Care System. *New Engl J Med* 335:1407–1411, 1996
3. Pogach LM, Hawley G, Weinstock R, Sawin C, Schiebe H, Cutler F, Zieve F, Bates M, Repke D: Diabetes prevalence and hospital and pharmacy use in the Veterans Health Administration (1994). *Diabetes Care* 21:368–373, 1998
4. Fleming BB, Greenfield S, Engelgau MM, Pogach LM, Clauser SB, Parrott MA: The Diabetes Quality Improvement Project: moving science into health policy to gain an edge on the diabetes epidemic. *Diabetes Care* 24:1815–1820, 2001
5. U.S. Department of Health and Human Services: *Healthy People 2010*. 2nd ed. Washington, D.C. U.S. Government Printing Office, 2000
6. Jha AK, Perlin JB, Kizer KW, Dudley RA: Effect of the transformation of the Veterans Affairs Health Care System on the quality of care. *New Engl J Med* 348:2218–2227, 2003