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A VA Health Services Research & Development Resource Center

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Better Methods, Greater Clarity Needed in Cost-Effectiveness Analysis

Policymakers still give little attention to cost-effectiveness analysis in making health care coverage decisions. This was the message delivered at the panel "When Does Economic Analysis Influence Health Care?" held at the 2003 national meeting of the VA Health Services Research and Development Service.

According to Dr. Chester Good, Chair of the VA National Clinical Practice Guidelines Council, clinical effectiveness tends to trump cost-effectiveness in their deliberations. Moreover, many decision-makers are not trained in cost-effectiveness analysis. Cost-effectiveness analyses are also hampered by a lack of uniform standards and unstated assumptions, according to Dr. Grant Bagley, former director of the unit that studies Medicare benefits. Dr. Len Pogach, Chair of the National Council on Guidelines of VA and the Department of Defense, cited difficulties in measuring outcomes. Some changes in quality of life are not adequately captured in Quality Adjusted Life Years (QALYs), he noted. Dr. Stephen Sheingold of the Medicare coverage group agreed, stating that there is no agreement on how to measure QALYs. Results may depend on whether patient preferences or general population preferences are used.

The panelists pointed out several ways to improve cost-effectiveness studies: Assumptions should be described, comparators carefully chosen, and costs incurred by patients included. Much needs to be done, they agreed, to educate both clinicians and other decision-makers about cost-effectiveness analysis.

Brief presentations by the panelists were followed by discussion with the audience. HERC economist Mark Smith was the moderator. For a copy of notes from the meeting, send a request to herc@med.va.gov.

Looking For Average Cost and Micro-Cost Methods?

HERC describes its average cost and micro-cost methods and other VA data resources in the September 2003 supplemental issue of Medical Care Research and Review. The articles will be particularly relevant to researchers using the HERC average cost data and to those considering adding an economic component to a VA project.

The first three articles focus on the creation of the HERC comprehensive VA average cost databases. They describe methods for estimating the cost of hospital and ambulatory care. Additional articles describe VA pharmacy databases and methods of determining costs by direct measurement. Alternative VA cost determination methods are reviewed and recommendations are provided to economics researchers. The last paper presents HERC estimates of the health care costs incurred by veterans with the most prevalent chronic diseases. Commentaries from researchers in Canada and RAND are included.

Each article underwent the Journal's rigorous peer-review process and benefited from comments by VA guest editors Ann Hendricks and Douglas Bradham, and from the Journal editor, Jeffrey Alexander.

Copies of individual articles are available in PDF format on the HERC web site, www.herc.research.med.va.gov. For printed copies of the supplement, send a request to herc@med.va.gov. The supplement's contents are listed below.

Using Average Cost Methods to Estimate Encounter-Level Costs for Medical-Surgical Stays in the VA
(T.H. Wagner, S. Chen, P.G. Barnett)

Estimation of Encounter-Level Hospitalization Costs: Accuracy of a Multivariate Prediction Model
[Commentary] (J.D. Malkin, M. Schoenbaum)

Average Cost of VA Rehabilitation, Mental Health, and Long-Term Hospital Stays
(W. Yu, T.H. Wagner, S. Chen, P.G. Barnett)

Estimating the Costs of VA Ambulatory Care
(C.S. Phibbs, A. Bhandari, W. Yu, P.G. Barnett)

Direct Measurement of Health Care Costs
(M.W. Smith, P.G. Barnett)

Pharmacy Data in the VA Health Care System
(M.W. Smith, G.J. Joseph)

Determination of VA Health Care Costs
(P.G. Barnett)

Methods for Patient-Level Costing in the VA System: Are They Applicable to Canada?
[Commentary] (G. Blackhouse, R. Goeree, B.J. O'Brien)

Prevalence and Costs of Chronic Conditions in the VA Health Care System
(W. Yu, A. Ravelo, T.H. Wagner, C.S. Phibbs, A. Bhandari, S. Chen, P.G. Barnett)

Just Released! Four New Technical Reports

HERC just released four new technical reports. Two reports describe methods for estimating indirect costs of VA health care, a significant cost element dismissed by many researchers. A third report describes a new financing system of research administration in VA medical centers, and the fourth compares VA outpatient data extracts in the Austin Automation Center (AAC) to source data at each medical center. The reports are described below and are available for download from the HERC website, http://www.herc.research.med.va.gov/pubs.htm or by writing to herc@med.va.gov.

Indirect costs are those incurred by a VA facility that cannot be tied to a particular health care service. Common indirect costs include housekeeping, administration, real estate payments, and utilities. The VA Decision Support System (DSS) estimates indirect costs, but these data are not available or appropriate for some research projects. In these cases, researchers must estimate indirect costs by other methods. In technical reports #5 and #6, HERC staff members report methods for calculating the indirect costs of Positron Emission Tomography (PET) scans (report #5) and specialized VA mental health treatment (report #6).

The VA Office of Research and Development (ORD) dispenses money, known as "101 funds," to support research administration at each VA medical center. The current system is seen by many as inflexible and unresponsive to new demands. In 2002, the VA Chief Research and Development Officer and HSR&D leaders commissioned HERC to describe the costs of research administration and propose better financing methods. These three alternative systems are described and compared in technical report #7.

Researchers often assume that the VA utilization databases are accurate and complete. To test this, HERC staff obtained outpatient utilization data from VISTA and the National Patient Care Database (NPCD) for selected patients receiving substance abuse care. VISTA, the clinical data system at each medical center, is the source for NPCD data. As detailed in technical report #8, the two databases had a 99% correspondence in dates of care and procedures, and a 97% correspondence in provider ID numbers.

HERC Cost Dataset Released

HERC researchers have estimated the cost of all VA hospital stays and outpatient visits that occurred in the 2002 federal fiscal year (FY02). These estimates are now available on the Austin Automation Center (AAC) in the same location as the FY98-FY01 HERC average cost databases.

The HERC cost dataset has been updated and improved in several ways. Here are the highlights:

- HERC added new information about the cost of hospital stays, which can be complex. A stay that began in a medical ward may end up in a long-term unit. In the past, the user had to access two different HERC files to find the cost incurred in each unit when a stay began in a medical ward and ended in a long-term care unit. The FY98-FY02 inpatient data now features cost subtotals and days of stay for ten categories of care that can be used to study the use and cost of specific categories of care, such as rehabilitation, psychiatry, or substance use.

- HERC created person-level estimates of the annual aggregate costs incurred by each user of VA health care services and several changes were made to improve the accuracy of VA ambulatory care cost estimates.

- HERC made several changes to improve the accuracy of VA ambulatory care cost estimates. We used the Medicare fee schedule for durable medical equipment and costs from the VA National Prosthetics Patient Database. The William Mercer Company analyzed its data set of 30 million claims to provide HERC with payment rats for services missing from other fee schedules. HERC worked to improve the quality of VA utilization data. We are now collaborating with the VA National Data Systems group to evaluate changes in programming rules used to create national ambulatory care datasets.

For more information about these datasets, see the Publications section of the HERC web site www.herc.research.med.va.gov. Please send progress reports and suggestions to herc@med.va.gov.

Spotlight on the 2003 HSR&D National Meeting

Spending on Psychiatric Medications Increase 42%

VA spending on psychiatric medications increased by 42% over the last three years, according to a study by the Health Economics Resource Center (HERC). "Newer antipsychotics and antidepressants led growth in outpatient pharmacy for mental health," said Economist Mark Smith at the VA Health Services Research & Development National meeting in Washington, D.C. Smith and HERC Research Associate, Shuo Chen, found almost no growth in spending on other aspects of specialized mental health care, and that services were shifting from inpatient to outpatient settings.

VA and Medicare Hospital Costs Same

"The cost of VA hospital stays is similar to Medicare hospital costs once teaching status and differences in cost allocation are considered," reported HERC Economist, Wei Yu. He noted that the major factor explaining cost differences between them is that 75% of VA hospitals are teaching hospitals. Yu presented this research at a session led by HERC Economist Ciaran Phibbs and Mark Prashker, Chairman of the HERC Steering Committee.

Hazardous Drinkers Don't Receive VA Care

Most veterans identified as hazardous or harmful drinkers do not receive care in VA, according to a poster presented by Shuo Chen and HERC Economist Todd Wagner. If the hazardous and harmful drinkers received VA care, the authors predicted that many would be screened and would receive brief interventions that have substantial research supporting their effectiveness.

Large IRBs More Efficient

Among Institutional Review Boards (IRBs) serving VA facilities, large IRBs are substantially more efficient than small ones. Todd Wagner presented a paper showing that the adjusted average costs per IRB action were $3009, $453, and $147 for small, medium and large IRBs, respectively. Average costs varied significantly more in small IRBs than large ones, in part because small IRBs were more affected by differences in the type of studies reviewed.

DSS Estimates Indirect Cost of Care

"A new department-level Decision Support System (DSS) database can be used to estimate indirect costs of VA care," reported HERC Research Associate Magda Berger. National averages rather than facility-level data should be used due to the presence of outlier values at the facility level. Her presentation was based on a study conducted with HERC Economists Paul Barnett and Wei Yu.

Highlights of Recent HERC Publications

HERC researchers authored more than 20 journal articles in the past year. A few have been highlighted below.

The Internet and Health Care

The Internet has transformed how people access health care information. In a nationally representative survey of households, researchers found that the Internet and e-mail for health care were used less often then previously reported. When the Internet was used, people reported that it had a very limited effect on health care utilization. *(Baker L.C., Wagner T.H., Singer S., Bundorf M.K. Use of the Internet and e-mail for health care information: results from a national survey. JAMA 2003; 289(18): 2400-2406.)*

VA Contains Spending While Increasing Users

The VA contained spending and increased access in specialized psychiatric care from 1995 to 2001. Spending for specialized inpatient mental health care fell 21%, while expenditures for specialized outpatient care rose 63%. The shift from inpatient to outpatient care was accompanied by rapid increases in outpatient medication costs. Overall, VA reduced the average cost of specialized mental health care per VA user by 22% and increased the number of users of these services by 35%. *(Chen S., Smith M.W., Wagner T.H., Barnett P.G. . Spending for mental health treatment in the Veterans Health Administration: 1995-2001. Health Affairs 2003; 22(6): 256-263 {in press}.)*

PET Scans May Not Be Necessary

Chest x-rays identify small tumors in the lungs of many adults. One method for determining whether a tumor is cancerous is the Positron Emission Tomography (PET) scan. But PET scans are expensive and may not be worth the additional expense relative to surgical biopsy or watchful-waiting. A recent study compared the cost effectiveness of lung cancer diagnostic strategies that did or did not include PET scans. It found that the procedure should be used selectively. In some circumstances, PET scans resulted in similar quality-adjusted life-years and lower costs. *(Gould M.K., Sanders G.D., Barnett P.G., Rydzak C.E., Maclean C.C., McClellan M.B., Owens D.K. Cost-effectiveness of alternative management strategies for patients with solitary pulmonary nodules. Annals of Internal Medicine 2003; 138(9): 724-735.)*

Under-Use of Medications Tied to an Increase in Medical Costs

Dramatic increases in out-of-pocket costs raise the possibility that patients will under use their prescribed medications. Patients with diabetes in three systems of care were studied to determine whether they were under using drugs and, if so, whether this was associated with their health status. VA patients who enjoyed the lowest co-payments reported lower rates of cost-related medication under-use (9%) than patients with private insurance (18%), Medicare (25%), Medicaid (31%), or no health insurance (40%; p<. 0001). Individuals reporting cost-related medication under-use had worse diabetes control than other patients (p<. 0001), in addition to more symptoms, and poor physical and mental functioning (all p<. 05). *(Piette J.D., Wagner T.H., Potter M.B., Schillinger D. Health insurance status, medication self-restriction due to cost, and outcomes among diabetes patients in three systems of care. Medical Care {in press}).*

Like the orange and brown leaves on an oak tree in November, HERC is falling into place with several new staff members!

Smith Named HERC Associate Director

Mark Smith, Ph.D., is the new Associate Director of HERC. His research interests include the economics of mental health care, micro-costing methods, and the cost-effectiveness of disease management programs. He is the economist on a new Cooperative Study trial of intensive dialysis for inpatients with acute renal failure. Smith joined HERC in the summer of 2001, after working for The MEDSTAT Group in Washington, D.C. He received his Ph.D. in economics from Yale.

Leonor Ayyangar, M.A., joined HERC as a Data Manager in February 2003. She holds a Master's degree in Statistics and has previously worked as a Statistician and SAS Programmer for various pharmaceutical, research, and marketing companies. She is currently involved in substance abuse and continuity of care studies at HERC. Lenny likes to spend her free time in the garden or on her bicycle.

Forest Baker, Ph.D., joined HERC in October as a Research Health Scientist Specialist and is currently reviewing the various methods that are used to determine the desirability (i.e., the utility) of different health states in order to provide some guidelines for VA researchers. Originally from Sacramento, he spent time living in New York, Vermont, and Illinois before finishing a year-and-a-half long trip traveling the world. Forest's background is in psychology, but he tries not to be too intimidated by all the economists he works with.

Jeannie Butler, B.A., joined HERC as a Technical Writer/Administrator. Since joining HERC she has been assisting Paul Barnett, Mark Smith, Ciaran Phibbs, Todd Wagner and Wei Yu on the Annual Report and the HERC Bulletin. Jeannie is proud to admit that she is a huge Green Bay Packers fan.

Ariel Hill, A.B., came to HERC as a Research Associate after working for the U.S. General Accounting Office where she designed, executed and authored quantitative studies of health care issues for Congress. She is currently working on the cost-effectiveness piece of a multi-center clinical trial on treatment options for acute renal failure and will be working on risk-adjusting estimates of VA nursing home costs. Ariel spends her free time playing ultimate Frisbee.

Shirley Kim, M.H.S.A., joined HERC as a Health Science Specialist in August 2003 after working as an intern at Chicago Health Outreach. Since joining she has been working on the End-of-Life project with economist Wei Yu. On her free time Shirley like to cook and bake a wide variety of different dishes.

Sam Richardson, B.A., joined HERC as a Research Assistant after teaching 7th grade life science, math and ESL in East Palo Alto, CA. He is currently investigating the cost of VA inpatient rehabilitation for the Rehabilitation Costs project and will be working on the End-of-Life project with economist Wei Yu. Sam is a big Red Sox fan and says, "You have to like a team, even if they don't win."

Jesse Velez, B.A., joined HERC in August as a Statistical Programmer/Research Associate. Since his start he's been assisting the Research and Development Service (RR&D) rehabilitation project as a data analyst. He received his B.A. in Economics at UC Davis where he worked as a student Data Assistant for the Institute of Governmental Affairs, and for a Program on Welfare, Education and Inequality. While at the IGA, he worked on research using 19th Century British census data for analysis of poor relief and land tax reforms. Jesse says his second home is the library because he spends all of his free time working on his Masters of Statistics at Cal State Hayward.