Research Highlights

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Gauging Future Demand for Veterans' Health Care

Does the VA Have the Forecasting Tools It Needs?

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In 1996, the mission of the Department of Veterans Affairs (VA) broadened dramatically. The Veterans' Health Care Eligibility Reform Act of 1996 transformed the VA from an episodic provider of inpatient care for veterans to a comprehensive health care provider responsible for all the medical needs of veterans who enroll. To support budgeting and planning for this broader mission, the VA relies on a complex model known as the Enrollee Health Care Projection Model (EHCPM) to predict future demand for veterans' health care needs. Is the EHCPM up to the task? The VA asked RAND (in conjunction with an independent, senior-level actuary) to evaluate the model, which was developed and is operated by an actuarial consulting firm. The RAND evaluation addressed three main questions:

- Does the modeling approach support long-term budget planning and policy analysis?
- Does it accurately project VA service demand and costs?
- Is the design and operation of the model transparent to users and outside parties?

RAND's evaluation found that the EHCPM is useful for short-term budget planning, but less so for longer-range planning, especially in alternative policy environments. Fortunately, the model is structured in a way that would allow modifications to support longer-term policy and planning applications without disrupting its usefulness for near-term budget planning. The study also found that the high-level model components are relatively transparent, though model subcomponents are substantially less so.

Key findings:

RAND evaluated the model used by the VA to project future demand for veterans' health care needs. The evaluation found that

- **The model is useful for short-term budget planning, but less so for longer-term strategic planning and policy analysis.**
- **The model is structured in a way that would allow modifications to improve support for longer-term policy and planning applications without disrupting its usefulness for near-term budget planning.**
- **The high-level structure of the model is relatively transparent, although the model's subcomponents are substantially less so.**

How Does the Model Work?

The EHCPM estimates the use of VA services in a base year for each service category (e.g., inpatient care, office visits) using proprietary benchmarks based on utilization in commercial health plans as a starting point. The costs associated with the estimated use of each service are derived from data provided by the VA's cost accounting system. In the next step, the EHCPM estimates base year service use and the unit cost of services. These estimates are based on anticipated changes in demand for VA care, the efficiency and intensity of care provided by the VA system, and overall projected medical inflation in the United States. In any given year, the VA forecasts expenditures for each service by multiplying expected enrollment, forecast utilization, and forecast unit costs (see figure).

Does the Model Support Budgeting and Policy Analysis?

The RAND evaluation found that the EHCPM supports VA's short-term budget planning and monitoring. The model identifies factors that drive specific types of spending or spending for specific types of enrollees and can adjust those factors as needed. Model results can also help the VA develop more-informed strategies for manag-

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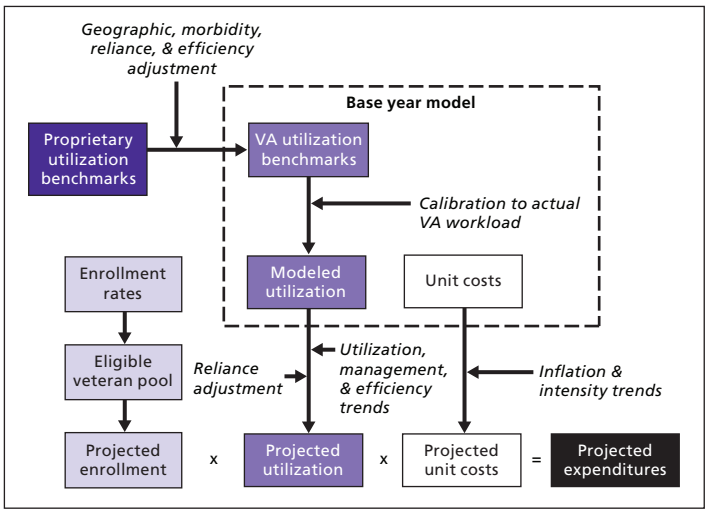
Structure of the VA's Enrollee Health Care Projection Model



ing expenditures. In addition, the current model allows the VA to monitor budget execution and performance relative to preestablished benchmarks. Only the accuracy and timeliness of VA data systems—not the model's structure—limit the EHCPM's utility with respect to these functions.

However, for longer-term strategic planning and policy analysis, the model could yield misleading results. The utility of the EHCPM for such applications is limited in two key ways. First, under the current specification, short-term utilization projections are tied to VA experience and thus do not measure potential service demand independent of the capacity of the current VA delivery system. Second, the current specification treats the VA's cost structure like that of a fee-for-service payer, such as Medicare or a commercial insurer, whose costs are highly variable. Thus, if a substantial proportion of the VA's costs are fixed rather than variable, projected expenditures will be unrealistic.

Using the model to inform scenarios beyond the current policy and budgetary environment requires information about a wide range of factors, including the VA's future cost structure, how rapidly the VA can expand its capacity to meet demand, factors driving enrollment, and the relationships among enrollee health status, VA treatment capacity, and enrollees' preferences for treatment in VA facilities. In many cases, required information does not exist or was not available. Thus, substantial modifications to model subcomponents and enhancements of supporting data inputs would likely be required before the EHCPM could support longer-range planning.

Is the Model Accurate?

Does the model accurately predict the level of resources needed by the VA in future years to meet projected demand? The model's accuracy becomes less certain as it is used to project the impact of policy and budget scenarios farther from the status quo. The main source of this uncertainty stems from the fact that the EHCPM begins its expenditure projection with the VA's congressional budget allocation rather than an independent measure of resource needs. The discretionary nature of the VA's budget complicates the comparison between model projections and actual expenditures. Under a discretionary budget, the VA does not have the authority to spend more than Congress appropriates. If demand for VA services cannot be satisfied under the VA's appropriation, then actual expenditures will reflect the constraints inherent in the appropriation and not actual demand for VA services.

Is the Model Transparent?

The overall structure of the model is relatively easy for users and outside evaluators to understand. However, the model's subcomponents are less transparent. Transparency at this level is limited by several factors: complicated algorithms that are used to set parameters of model subcomponents; uneven and often incomplete model documentation; reliance on data and clinical-efficiency benchmarks that are proprietary to the contractor that operates EHCPM and therefore not available for outside review; and the lack of a standing process for obtaining independent, periodic evaluations of the model by outside experts.

Recommendations for Improving the Model

To enhance the model's usefulness, the VA might consider modifying the subcomponents to allow for more-robust forecasting of demand for and cost of VA care in a changing policy environment. This change would require substantial investments to expand VA's ongoing survey efforts and to develop new costing methodologies that account for fixed costs. If such investments are not feasible, the VA may want to investigate simplifying the current model, drawing more-exclusively on the VA's own data resources. A simpler model would be more transparent and may perform equally well. Under either an enhanced or simplified model, the VA might also consider other improvements, including more approachable and complete documentation, the involvement of a wider range of experts in model development, and periodic review by independent experts. ■

This research highlight describes work done for the RAND National Security Research Division and RAND Health documented in *Review and Evaluation of the VA Enrollee Health Care Projection Model*, by Katherine M. Harris, James P. Galasso, and Christine Eibner, MG-596-DVA, 2008, 118 pp., $24.50, ISBN: 978-0-8330-4570-6 (available at http://www.rand.org/pubs/monographs/MG596/). This research brief was written by David M. Adamson. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.

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