

## Grant Outcomes Report

### Improving Chronic Illness Care In New York State

#### I. Executive Summary

A large share of Medicaid costs can be attributed to spending on patients with serious and/or chronic illnesses. While the State has sought to improve the care of chronically ill patients through implementing a managed care program, approximately 25% of Medicaid beneficiaries still remain in the unmanaged fee-for-service (FFS) program. Many of these managed care exempt and excluded beneficiaries are among the most seriously medically ill and often have behavioral health co-morbidities. Under this grant, John Billings of New York University's Robert F. Wagner Graduate School of Public Service (NYU Wagner) assisted the New York State Department of Health (NYSDOH) Office of Health Insurance Programs (OHIP) to develop and implement the Chronic Illness Demonstration Project (CIDP), an approximately \$30 million initiative to improve health outcomes and contain the cost of caring for a subset of these vulnerable FFS Medicaid beneficiaries. Billings' work focused on analysis of the State's Medicaid data to identify its high-cost FFS patients at risk for a near-term (within one year) adverse health event who would be the target of the program's request for proposals (RFP). Billings also assisted the State by completing a variety of other related tasks, such as analyzing State Medicaid data to determine whether it is possible to assess provider performance, coordinating the evaluation of the CIDP grantees, and exploring ideas for improving coordination of care for patients with serious mental illness who are enrolled in managed care. This New York State Health Foundation (NYSHealth) grant helped to provide key analytics that informed every aspect of a large State investment in testing better and less costly models of care for Medicaid's highest-need beneficiaries.

This project was part of a larger NYSHealth authorization that funded a series of quick-strike analyses to assist New York State in identifying strategies to streamline and expand its public health insurance programs. A summary of findings from this authorization is available on NYSHealth's website.

#### II. The Problem

A large share of Medicaid costs are allocated to patients with serious and/or chronic illnesses. In 2001, 3.6% of Medicaid patients accounted for approximately half of all Medicaid expenditures.<sup>1</sup>

<sup>1</sup> Sommers, A and Cohen, M. Medicaid's high cost enrollees: How much do they drive program spending? Kaiser Commission on Medicaid and the Uninsured. March 2006.

#### KEY INFORMATION:

**GRANTEE**

New York University, Robert F. Wagner Graduate School of Public Service

**GRANT TITLE**

Reimbursement Reform and Cost Management Project

**DATES**

July 1, 2007–August 30, 2009

**GRANT AMOUNT**

\$99,352

In fact, Billings' earlier research found that the majority of Medicaid spending was concentrated among patients with more than one chronic condition, many hospitalizations, and no usual source of medical care.<sup>2</sup> This earlier research also suggested that improving the medical care management of these patients would not be easy because there were high levels of substance use, mental illness, and learning disabilities among this patient population. Finally, Billings theorized that improving care for these patients would require the ability to identify them during admission to the emergency room or hospital, better integration and coordination of their care (including primary and specialty, hospitals and ambulatory, and home care services), and the capacity to link patients to non-medical services. In other words, a strong intervention for these patients would treat them more holistically, addressing medical and social issues.

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Billings developed the earlier version of the algorithm with funding from the United Hospital Fund and the New York Community Trust. This original algorithm was created using Medicaid data on the population of beneficiaries the State planned to move into managed care. The United Hospital Fund piloted this early version of the algorithm in several sites so patients could be interviewed about their needs.

When the State passed legislation to fund a broad intervention for patients with chronic illnesses, it had no mechanism for identifying and targeting patients that were most likely to have costly admissions in the future. Billings' early algorithm model presented OHIP with the mechanism needed to find these patients and move forward with developing an intervention.

### III. Grant Strategy

The purpose of this grant was to fund refinement of this predictive model and to support Billings' technical expertise as a resource to OHIP. Billings was funded to use his algorithm to help the State identify high-cost patients and to develop an intervention to better coordinate care for these patients.

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<sup>2</sup> Billings, J. and Mijanovich, T. Improving the management of care for high cost Medicaid patients. *Health Affairs*, 2007; 26(6):1643-1655.

The project was initially driven by four questions:

1. In designing OHIP's programs for high-cost patients, what are the cost and utilization patterns that characterize these patients, and what are the implications for designing intervention strategies to improve care, service delivery, and coordination?
2. How can this information be incorporated by OHIP into an intervention initiative in one or more sites, including development of reimbursement incentives to encourage reduction of costs?
3. Can OHIP use risk assessment approaches with its data to immediately assist providers, plans, and contractors in targeting interventions and care and service improvement?
4. How can OHIP use its claims and encounter databases to facilitate more effective cost management and service improvement through greater transparency and accountability on provider performance?



Though these questions remained central to the project, other opportunities for use of administrative data to frame policy issues and evaluate policy initiatives emerged during the course of the project.

## IV. Grant Activities

The main activities of this project were:

**CREATION OF A USEABLE ANALYTIC DATABASE WITH SUFFICIENT DETAIL TO ADDRESS KEY POLICY QUESTIONS.** Medicaid FFS claims data and managed care data for the State's more than 4 million Medicaid recipients generate hundreds of millions of data records every year. Compiling a useable analytic file for policy analysis requires countless hours of data cleaning and manipulation, but Billings worked with OHIP staff members to create Medicaid FFS claims databases for the years 2001–2007, as well as a Medicaid managed care database for 2005–2006.

**IDENTIFICATION OF PATIENTS INCURRING HIGH COSTS WHO HAD NOT ENTERED MANAGED CARE.** An early focus of the grant was to find patients incurring high costs who had not yet entered managed care to determine whether a Legislature-mandated demonstration program could improve care for these patients. Billings and senior OHIP staff members theorized that better coordination of patient care and linkages to social and other community-based services would improve health outcomes by reducing hospitalizations for preventable and/or avoidable conditions and reducing costs to Medicaid,

even after accounting for the costs of coordinating care. Billings created a predictive model that assigned a risk score to a patient, which identified more than 33,000 patients who were at high risk for future hospitalizations. He worked extensively with OHIP staff to find potential opportunities for interventions, looking at both geography and provider type.

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**DESIGN OF INTERVENTION PROGRAMS TO PROVIDE BETTER CARE TO PATIENTS INCURRING HIGH COSTS.** OHIP used Billings' data and technical expertise to design interventions for these patients and develop an RFP issued in early 2008 for a Statewide CIDP. This program marked an important change in OHIP's approach to managing its Medicaid program. It was the first time that OHIP used an approach similar to that of an insurance company—reviewing claims data, identifying patients, and designing interventions to improve their quality of care and reduce overall costs.

**PROVISION OF PATIENT DATA TO RFP BIDDERS ON DIAGNOSTIC AND PRIOR UTILIZATION HISTORY.** From prior claims records, Billings was able to provide to bidders a diagnostic history and prior utilization patterns of their high-cost patients. The data would help bidders understand the challenges these patients were likely to present and would illustrate the broad range of services needed in a coordinated delivery system. Bidders could also use the data to design intervention strategies. Of note, OHIP overcame any perceived legal barriers to producing these claims files, which included identifying information on patients, and sharing them with the CIDP providers by obtaining signed consent from participating patients. In fact, this feature of the program is unique to New York State. Other states are doing similar types of work, but have not yet overcome the barriers to providing such detailed data to providers.

**ASSESSMENT OF WHETHER MEDICAID DATA COULD BE USED TO PROFILE PROVIDER PERFORMANCE.** Billings tried to combine FFS and managed care data to assess how their providers performed on a series of dimensions, such as keeping them out of the hospital for avoidable or preventable conditions and the total cost of their care. From this exercise, Billings determined that the data was lacking essential information for measuring provider performance and was therefore unable to complete this analysis.

**REVIEW AND PREPARATION OF DATA FOR CIDP GRANTEES.** Billings remains active in reviewing and preparing the data that is sent out to current grantees who are implementing their programs.

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**DESIGN AND COORDINATION OF THE EVALUATION OF THE CIDP.** MDRC, a nonprofit, nonpartisan social policy research organization, is responsible for the design and conduct of an evaluation of the CIDP. Billings helped to balance pure evaluation methods with the need for real world interventions during the design phase of the evaluation and continues to lend his technical evaluation expertise on behalf of OHIP. In this capacity, Billings was able to fill a gap in expertise at OHIP.

**PARTICIPATION IN A LEARNING COLLABORATIVE WITH CIDP GRANTEES.** Part of the program involves a learning collaborative of six grantees, who meet three times a year to share lessons and outcomes. Through this forum, they learn from each other and get ideas to test back at their home institutions. Billings participates in these collaboratives.

“Across the board, the feedback to NYSHealth on this project has been that this program would not exist without John Billings’ participation. “John Billings was absolutely critical to development of the Chronic Illness Demonstration Project,” says Jay Laudato, formerly the Director of the Division of Managed Care at OHIP. “Every step of the way, John has been involved.”

## V. Challenges

One technical challenge that emerged was the difficulty of assessing provider performance, as the State’s data do not allow for that level of analysis.

Another challenge Billings faced was the design of the evaluation. This was not necessarily a focus of his original work on the project, but he became a key player in designing the evaluation, bridging the world of policymakers and research methodologists. Billings was able to help OHIP and the evaluation team find the right balance between pure evaluation methods and the realities of providing care to a vulnerable patient population. They were ultimately able to agree on a quasi-experimental mode of evaluating this project; thus the results will be acceptable to the wider scientific community and will be meaningful in setting evidence-based policy in other states and perhaps even on a nationwide basis.

Finally, a challenge for Billings going forward is finding support for his continued participation in the project—providing quarterly refreshment of data for each CIDP site and working with the learning collaborative.

## VI. Key Findings

The single most important result of this project was the development and design of the CIDP. Across the board, the feedback to NYSHealth on this project has been that this program would not exist without John Billings’ participation. “John Billings was absolutely critical to development of the Chronic Illness Demonstration Project,” says Jay Laudato, formerly the Director of the Division of Managed Care at OHIP. “Every step of the way, John has been involved.”

“This was the first time OHIP was taking all of the information it has on its beneficiaries and acting like an insurance company,” says Laudato. “We are now using our data to find some of our most vulnerable patients and reaching out into the community and the individual to try to positively affect their health and quality of life. For the first time, we in Albany are looking at, for example, a patient in the Bronx and saying ‘this person has had 10 visits to the emergency department, no outpatient visits, and has heart disease, hypertension and diabetes. We must reach out to this patient and help them to engage in care.’” Laudato sees this program as potentially changing decisionmaking and grantmaking processes at OHIP going forward.

Data provided to the sites bidding on the CIDP RFP included the following about patients who were at high risk of hospitalization:

- 76% had a history of chronic disease;
- 52% had multiple chronic disease;
- 73% had a history of alcohol/substance use;
- 69% had a history of mental illness;
- 54% had a history of both alcohol/substance use and mental illness; and
- 28% had no primary or specialty care use in the prior 12 months.



These results underscored the range of issues facing each potential site.

## VII. Lessons Learned

In a number of past demonstration projects that attempted to improve quality and address the high cost of health care, the State used a disease-specific approach. Yet these programs did not generate any appreciable savings for improved health outcomes and in many cases, there was no ability to measure the fiscal and clinical impact. OHIP wanted to start thinking more holistically about Medicaid patients and help providers design interventions encompassing some social aspects to their patients’ care, not just the medical aspects. Also important was the ability to objectively evaluate the success, or failure, of the demonstration program. When OHIP staff reviewed Billings’ initial results, they realized that a range of patients met the criteria for program intervention (a patient at risk for hospitalization in the upcoming 12-month period). These patients range from people who have very serious medical illnesses and no mental health or substance use issues to people who are physically healthy, but have severe mental health and substance use issues. In addition, there is a wide bell curve that encompasses patients with varied diagnoses, from something as specialized as sickle cell anemia



to patients with HIV. So, the CIDP did set an ambitious goal in trying to address the quality and cost of health care by looking at the whole person, rather than through a disease-specific lens; however, Billings's predictive modeling offers a high level of assurance that these patients lack primary and preventive care and are likely to have a near-term adverse health event. Accordingly, while they are highly diverse, these patients can be impacted through preventive care and outcomes can be measured during the period of the project.

Another lesson learned is related to a practical data issue. Billings generates data that is sent out to the sites that participate in the CIDP. These patient claims have to be processed, which can take approximately six to nine weeks. In the interim, some beneficiaries can lose their Medicaid coverage or some beneficiaries might actually change to a different type of coverage. In addition, many patients' personal circumstances may involve homelessness or psychiatric placement, and it is often difficult for providers to find these patients during this data lag period. Taken together, these issues make it more difficult to recruit patients into the intervention group.

Patient recruitment is also part of the evaluation—figuring out who it is that they are able to recruit, and ultimately enroll, in the interventions and determining whether underlying patterns exist. Another interesting evaluation question is, of those who they are able to enroll, for whom can these interventions most dramatically bend the cost curve?

## VIII. The Future

Billings continues to strategize with OHIP staff on this program, as well as produce data to send out to the project sites every three months, and will likely continue to help OHIP with this work for the next few years. His work is replicable and has been adopted by two Medicaid managed care plans in New York State. Aetna is also using this model nationally for its Medicaid managed care patients. New York's CIDP, which relied on Billings' work, will also most likely contribute to the national agenda on health care quality and costs. "It is a very clear and actionable approach that drives us toward a standardized way of identifying risk and tailoring interventions," says Melanie Bella, Senior Vice President at the Center for Health Care Strategies. "John's work will help to advance the national agenda on cost and quality improvement."

The biggest question facing the future of this work is whether the funded programs can ultimately save the State money. There is little doubt that patient care will improve, but as Billings says, "We don't know if the Chronic Illness Demonstration Project will ultimately save money—it might not. There is every chance that some of the projects will be more successful. But the State is paying a lot of money to each site for each patient's care; the sites will have to not only cover those funds, but, for this program to work, they also need to realize savings beyond what they were paid by the State. But we will learn what we can and cannot do to address the quality and cost of care for some of the most vulnerable patients in New York State."

## BACKGROUND INFORMATION:

### ABOUT THE GRANTEE

NYU Wagner is the home of 38 full-time, tenure track faculty who both teach and conduct inter-disciplinary research. These faculty members come from many disciplines and fields such as economics, finance, sociology, political science, law, planning, and health care. Both domestically and globally, faculty research at NYU Wagner examines issues of poverty, urban policy, health policy, organizational management, and leadership

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