Center for Healthcare Improvement for Addictions, Mental Illness and Medically Vulnerable Populations
"Research & Training to Improve Clinical Care"

UW Medicine
HARBORVIEW MEDICAL CENTER

Quantitative Evaluation of King County Care Partners' Rethinking Care Intervention: Updated Intent-to-Treat Findings on Select Medical and Long-Term Care Costs

Brief Report

Janice Bell PhD MPH[1,2], David Mancuso PhD[3],
Toni Krupski PhD[1], Jutta M. Joesch PhD[1], David C. Atkins PhD[1], Imara I. West MPH[1],
Beverly Court PhD[3], Peter Roy-Byrne MD[1]

[1]Center for Healthcare Improvement for Addictions, Mental Illness and Medically Vulnerable Populations (CHAMMP)
Department of Psychiatry and Behavioral Sciences
University of Washington at Harborview Medical Center
Seattle, Washington

[2]Department of Health Services, University of Washington

[3]Research and Data Analysis Division (RDA)
Washington State Department of Social and Health Services, Olympia, WA

January 13, 2012
(revised January 31, 2012)

In Collaboration with
Alice Lind and Allison Hamblin
Center for Health Care Strategies

EXECUTIVE SUMMARY

Approximately 5% of Medicaid beneficiaries generate more than 50% of related state spending[1]. *Rethinking Care* (RTC) provides community-based, registered nurse-led, multidisciplinary care management to high-cost Categorically Needy Aged, Blind, and Disabled Medicaid beneficiaries with behavioral health needs and multiple chronic conditions in King County, Washington.

We compared outcomes pre- and post-intervention for individuals randomized to the RTC intervention (n = 557) and those randomized to a comparison group to be offered the intervention at a later date (n = 563). Intent-to-treat analyses were conducted to examine the impact of the intervention on medical costs and use of medical and social services up to two-years post intervention for four key outcomes: total Medicaid medical services, emergency room visits, inpatient admissions, and long-term care. We did not find significant differences in any of the outcomes in the post-period relative to the pre-period between the RTC and comparison groups.

Of those offered the RTC intervention, 51% (n = 285) completed an in-person comprehensive assessment of medical and social needs and 45% (n = 252) subsequently set at least one health-related care plan goal. For those who began the program, the time from randomization to the start of the in-person assessment ranged from 0 to 15 months (mean 6).

Thus, half of the study population did not engage in services offered through the RTC intervention. Moreover, many participants experienced a delay in service onset. Low engagement rates and delayed service onset with subsequently shorter follow-up periods may offer explanations for the lack of differences in outcomes between the intervention and comparison groups. These findings may be applicable to other start-up, care management programs targeted to hard-to-reach populations—and in particular, to high-cost, high-risk Categorically Needy Aged, Blind, and Disabled Medicaid clients with a high prevalence of addiction, serious mental illness and other chronic conditions.

[1] Washington State Department of Social and Health Services. Fact Sheet: Aging and Disability Services Administration Chronic Care Management Project. January 2010.

Background

The Rethinking Care (RTC) intervention is a community-based, registered nurse (RN)-led, multidisciplinary care management designed to empower clients and enhance coordination, communication, and integration of medical and social services across safety-net providers.[2] In Washington State, RTC was funded by the Medicaid Purchasing Administration (MPA) in the state Department of Social and Health Services (DSHS). The evaluation summarized in what follows was funded by the Center for Health Care Strategies through a contract to DSHS/MPA.

The RTC intervention focused on the subset of Aged, Blind, and Disabled Medicaid clients with evidence of mental illness and/or chemical dependency who were identified as being at risk of having future high medical expenses. To encourage participation in the RTC intervention, a variety of techniques were employed including client outreach efforts by a skilled survey research team.[3] RTC participants received up to two years of intensive care management from a clinical team of RNs and social workers. Care management included an in-person comprehensive assessment of medical and social needs; collaborative setting of health-related goals; chronic disease self-management coaching; physician visits of clients accompanied by their care managers; frequent in-person and phone monitoring by the care managers; connection to community resources; and coordination of care across the medical and mental health system. The key elements of the RTC intervention are published in detail elsewhere.[4]

This brief report focuses on four key outcomes— total Medicaid medical services, emergency room visits, inpatient admissions and long-term care—examined as part of the quantitative evaluation of the RTC intervention conducted by the Center for Healthcare Improvement for Addictions, Mental Illness and Medically Vulnerable Populations (CHAMMP) at the University of Washington at Harborview Medical Center. Complete results and technical details of the evaluation are forthcoming at: http://www.chammp.org/Program-Evaluation/Reports-and-Publications.aspx.

A total of 557 clients were randomized to receive the RTC intervention in February or March 2009 and 563 individuals were randomized to a comparison group who would be eligible to receive the intervention at a later date. Outcomes were compared for the RTC and comparison groups. Data from all clients in the RTC group were used, regardless of whether they engaged in the RTC intervention. All data were derived from the state DSHS Research and Data Analysis (RDA) Client Outcomes Database (CODB)[5].

---

[2] For a description of a typical client served by RTC, see: Court, B. J., Mancuso, D., Zhu, Ch., & Krupski, A. (2011). Predictive Risk Intelligence System (PRISM): A decision-support tool for coordinating care for complex Medicaid clients. In Schraeder, C. (Ed), Medicaid Care Management Best Practices. New York: John Wiley & Sons, Inc.

[3] Court, B. Enhanced Client Engagement Project Report. Washington State Medicaid Purchasing Administration, Office of Quality and Care Management. July 28, 2010. Reference ID #100568

[4] Lessler, D. S., Krupski, A., & Cristofalo, M. (2011). King County Care Partners: A community-based chronic care management system for Medicaid clients with co-occurring medical, mental and substance abuse disorders. In Schraeder, C. (Ed), Medicaid Care Management Best Practices. New York: John Wiley & Sons, Inc.

[5] Kohlenberg, L. (2009). Integrated client database. Data that improves DSHS decision making and services. Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis Division. Report No. 11.144.

Key Findings

Sample Characteristics

As expected given randomization, the RTC and comparison groups were similar at baseline with respect to sex, age, and race/ethnic composition and medical risk (**Table 1**). On average, clients were 51 years old. Not quite half of the clients were male and 57% were white. Approximately half of the clients in each group had a serious mental illness.

The two groups were comparable in the length of time they were eligible for Medicaid in the pre- and post- periods. Thus, the amount of available follow up data was the same for both groups.

Table 1: Sample Characteristics

	RTC Treatment	Comparison
Variables	**n = 557**	**n = 563**
Mean Age (Range)	50.5 (24-85)	51.0 (25-84)
Percent Male	47.6	43.3
Race/Ethnicity (Percent)		
White	56.5	57.5
Black,	26.1	26.9
Asian	5.9	5.5
AIAN	2.9	2.9
Hispanic	6.8	5.0
Other	1.8	2.3
Mean Risk Score[6] (Range)	2.5 (1.5 - 15.8)	2.5 (1.5 - 16.1)
Percent with Serious Mental Illness	49.3	50.3
Percent eligible <12 months before randomization	7.5	8.5
Mean months eligible before randomization (Range)	12(5 – 12)	12(5 – 12)
Mean months eligible after randomization (Range)	20 (1 – 24)	20 (1 – 24)
Mean Months from Randomization to Assessment (Range)	6(0 – 15)	-----

Client engagement rates for RTC exceeded those of a prior pilot intervention

Of those offered the RTC intervention, 51% completed a comprehensive in-person assessment of their health and social needs and 45% set at least one health-related care plan goal. In an earlier pilot project, only 18% of those offered the intervention accepted.[7] For those who completed the comprehensive assessment as part of the RTC intervention, the time between randomization until the assessment ranged from 0 – 15 months (mean 6), suggesting considerable delays in program onset for many clients.

[6] A risk score of 2.5 is interpreted as the client having predicted future health care costs two-and-a-half times that of the average Medicaid SSI client. (A minimum risk score of 1.5 was required for program inclusion.) See also: Court, B. J., Mancuso, D., Zhu, Ch., & Krupski, A. (2011). Predictive Risk Intelligence System (PRISM): A decision-support tool for coordinating care for complex Medicaid clients. In Schraeder, C. (Ed), Medicaid Care Management Best Practices. New York: John Wiley & Sons, Inc.

[7] Court, B. Enhanced Client Engagement Project Report. Washington State Medicaid Purchasing Administration, Office of Quality and Care Management. July 28, 2010. Reference ID #100568

Outcomes did not differ significantly for RTC clients versus comparison group members

There were no statistically significant differences between the RTC and comparison group in average per member per month (PMPM) costs of total Medicaid medical services, emergency department (ED) costs, inpatient costs (total, with, or without a preceding ED visit) or long-term care costs between the pre-period and the post-period. Nor were there differences in the number of 1,000 member per month (MPM) emergency department visits and inpatient admissions (Table 2).

Table 2: Difference-in-Difference Estimates for Specific Per Member Per Month (PMPM) Costs and Per 1,000 Member per Month (MPM) Visits

Variable	Group	Pre-Period[1] Average	Post-Period[2] Average	Unadjusted Pre-Post Mean Difference[3]	Adjusted Difference-in-Difference Estimate[4]	P[5]
Costs (PMPM)						
Total Medicaid Medical	RTC Comparison	$1,948 $1,861	$2,095 $1,918	+$147 +$57	$51	NS
Emergency Department	RTC Comparison	$125 $104	$103 $94	-$22 -$10	-$8	NS
Inpatient Admissions	RTC Comparison	$780 $843	$865 $921	+$85 +$78	-$12	NS
With Emergency Visit	RTC Comparison	$585 $554	$682 $724	+$97 +$170	-$86	NS
No Emergency Visit	RTC Comparison	$195 $290	$183 $197	-$12 -$93	$73	NS
Long Term Care[6]	RTC Comparison	$569 $518	$678 $600	+$108 +$82	$36	NS
Visits (per 1,000 MPM)						
Emergency Department	RTC Comparison	343 307	285 260	-58 -47	-3	NS
Inpatient Admissions	RTC Comparison	73 75	81 77	+8 +2	3	NS
With Emergency Visit	RTC Comparison	59 57	66 64	+7 +7	-2	NS
Without Emergency Visit	RTC Comparison	15 18	16 13	+1 -5	5	NS

[1] The pre-period represents up to 12 eligible months before randomization to the intervention.
[2] The post-period represents up to 24 eligible months following randomization to the intervention.
[3] A positive difference indicates an increase from the pre- to post-period; a negative difference indicates a decrease.
[4] All models included indicators of group assignment, time (pre=1; post=0, group x time interaction. All were adjusted for risk score (as a measure of condition severity), age, race/ethnicity, sex, serious mental illness, alcohol and drug treatment need and were weighted by the number of months of eligibility during the post period.
[5] NS = not statistically significant at the p<=0.05 level.
[6] Long Term Care is a sum of Aging and Disability Services Administration in-home services, assisted living, adult family home, adult residential care, and nursing home costs

Conclusions and Recommendations

Increased program engagement by RTC clients compared to the previous pilot project is encouraging. At the same time, fully half of those randomized to the RTC intervention did not

receive any services. Moreover, many participants experienced a delay in service onset. Chronic care management in this study was considered to begin at the point of randomization; whereas, actual program engagement began after this date, with the time from randomization to first contact ranging 0 to 15 months (mean 6 months). Low engagement rates and delayed service onset with subsequently shorter follow-up periods may offer explanations for the lack of significant differences in the four key outcomes between the intervention and comparison groups as examined in this report. Finally, in this high-risk population, significant changes in outcomes may take longer to emerge than the limited follow-up periods for which we had data available.

Future analysis will focus on an examination of outcomes within the subset of clients who actually received the RTC intervention.

These findings may be applicable to other start-up, care management programs targeted to hard-to-reach populations—and in particular, to high-cost, high-risk Categorically Needy Aged, Blind, and Disabled Medicaid clients with a high prevalence of addiction, serious mental illness and other chronic conditions.