

Disease Management (DM) and Patient-Centered Outcomes in the Centers for Medicare and Medicaid Services (CMS) End-Stage Renal Disease (ESRD) Disease Management (DM) Demonstration

Claudia Dahlerus PhD¹, Sylvia Ramirez MD MPH MBA¹, Brett Lantz MA¹, Caitlin Oppenheimer MPH², Alycia Infante MPH², Elizabeth Hargrave MPH², Jeffrey Pearson MS¹, Christine Cheu MPP¹, Tania Chowdhury MS¹, Sabrina Gomes BS¹, & Friedrich Port MD MS¹

¹Arbor Research Collaborative for Health; ²National Opinion Research Center

Background

Quality of Life (QoL) is severely compromised for patients with ESRD:

- Treatment burden
- Associated chronic conditions
- Financial costs

Research suggests that QoL status can predict outcomes for hospitalization, morbidity, and mortality in ESRD patients on dialysis.

Managed Care programs have been effective in providing focused patient care based on an approach that relies on care coordination, which can lead to improvements in physical and mental QoL, and potentially, patient satisfaction with overall care.

An earlier Managed Care Demonstration in the ESRD population, conducted by CMS, found that enrolled patients experienced an increase in their mental and physical QoL scores, and reported overall satisfaction with the program.

Objective

Determine whether integrated health care from the Disease Management programs in three Medicare Advantage (MA) Plans results in demonstrable improvements in QoL.

Assess enrollees' satisfaction with the participating Disease Management Organizations (DMOs) and enrollees' reasons for disenrollment.

Methods

Quality of life (QoL) and patient satisfaction were evaluated for patients enrolled in the ESRD Disease Management Demonstration at any point between 2006 through 2008. Patient demographic and health-related data were available from CMS and the MA Plans.

Baseline QoL was estimated using patients' first completed QoL survey after enrollment. Change in QoL over time used all surveys completed during a patient's enrollment period.

We analyzed unadjusted and adjusted changes in QoL based on patient responses to the SF-12 and SF-36 surveys in the three DMOs. Scores were compared to the U.S. DOPPS (Dialysis Outcomes and Practice Patterns Study) population with Medicare as the primary payer.

The Mental Component Summary (MCS) and the Physical Component Summary (PCS) scores are the two primary measures derived from the SF-12 and SF-36 QoL survey instruments. These are composite scales based on eight domains of physical and mental health.

QoL scores were normalized with a standard deviation of 10 points. Consistent with the literature, a 5-point change in QoL (roughly 0.5 standard deviations) was used to determine clinically meaningful changes.

Qualitative patient satisfaction data were analyzed from three samples of enrollees: focus groups (2006), follow-up telephone interviews (2007), and a separate sample of enrollees (2008).

Results – Quality of Life

Response rates for the QoL surveys differed across the three DMOs and DOPPS comparison group:

- DMO A: 727 patients, 17% with at least 1 survey (N=124) 27% had follow-up
- DMO B: 271 patients, 87% with at least 1 survey (N=236) 59% had follow-up
- DMO C: 1,381 patients, 64% with at least 1 survey (N=884) 49% had follow-up
- US DOPPS: 1,751 patients, 74% with at least 1 survey (N=1300) 36% had follow-up

Response rate was impacted by health status with healthier patients more likely to complete baseline and follow-up QoL surveys in both the DMOs and in the DOPPS comparison group.

As shown in Table 1, a 12-month change in unadjusted QoL scores was statistically significant but not clinically meaningful for DOPPS PCS and DMO B MCS. After adjustment, a decline at 12 months was statistically significant but not clinically meaningful for MCS and PCS scores in DMO B.

Table 1: Estimated 12-Month Change in QoL by DMO, Compared with US DOPPS, 2006-2008

	DMO A	DMO B	DMO C	All DMOs	DOPPS
	change (p-value)	change (p-value)	change (p-value)	change (p-value)	change (p-value)
Unadjusted MCS	n/a	-2.60 (0.02)	-0.70 (0.52)	-1.30 (0.10)	-0.60 (0.62)
Adjusted MCS	0.79 (0.69)	-1.47 (< 0.01)	0.46 (0.29)	-0.02 (0.96)	0.28 (0.51)
Unadjusted PCS	n/a	-1.20 (0.13)	-0.70 (0.42)	-0.90 (0.12)	-0.80 (0.04)
Adjusted PCS	-0.15 (0.93)	-1.09 (< 0.01)	-0.07 (0.85)	-0.29 (0.33)	0.01 (0.99)

Unadjusted change estimated with matched-pair t-tests. Adjusted change estimated using DMO-specific linear mixed models (LMM) controlling for age, gender, race, ethnicity, BMI, months on dialysis at enrollment, dialysis dose, serum albumin, corrected calcium, serum phosphorus, hemoglobin, vascular access mode, and QoL survey instrument (SF-12 or SF-36).

DMO A: n/a = unadjusted data suppressed due to N < 11; N = 93 patients, 126 surveys in LMM
DMO B: N = 70 patients, 140 surveys in t-test; N = 188 patients, 394 surveys in LMM
DMO C: N = 116 patients, 232 surveys in t-test; 739 patients, 1455 surveys in LMM
All Demo DMOs: N= 192 patients, 384 surveys in t-test; 1,020 patients, 1,975 surveys in LMM
US DOPPS: N = 467 patients, 934 surveys in t-test; N = 720 patients, 878 surveys in LMM

Results – Patient Satisfaction

Respondents cited their nurse care manager (NCM) as the most helpful aspect of the DMOs including the NCM's emotional support and broader education about health issues.

The second most helpful services commonly cited were medication-related support and services. At least one respondent from each of the DMOs mentioned the most valuable feature of the DMO was its lowered medication costs.

Table 2: Overall Satisfaction with the DMOs as Rated by Enrollees

Overall Satisfaction*		DMO A	DMO B	DMO C	All DMOs
First Round	2006	4.4	4.6	4.8	4.6
Second Round	2007	4.3	4.9	4.6	4.6
Third Round	2008	4.7	4.6	4.4	4.5

Mean scores for level of satisfaction on a scale of 1 to 5 (Rating scale: 1 = not at all satisfied, 2 = barely satisfied, 3 = somewhat satisfied, 4 = satisfied, 5 = very satisfied)

The most commonly cited reasons for disenrollment from the DMOs were confusion and misunderstandings about the DMOs and cost/billing issues. Many respondents reported that they did not fully understand how their benefits would change after enrolling.

Conclusions

The analyses suggest mixed results on the perceived benefit of disease management offered by the three DMOs, and their respective impact on patient centered outcomes.

DMO A and C programs were not associated with an improvement in QoL scores at 12-month follow-up during the 2006 to 2008 period. DMO B enrollees experienced decline in QoL scores at 12-month follow-up, but this was not a clinically meaningful change.

Low and varied response rates limit the ability to make systematic comparisons in QoL scores between patient populations at the DMO-level or to the DOPPS comparison group. Qualitative data with separate samples of enrollees cannot be generalized and results must be interpreted within the context of the patients interviewed.

High satisfaction was observed among patients who remained in the DMOs, while disenrollees cited confusion about DMO costs/benefits. Some evidence suggests disenrollment may also be related to poor health, with sicker enrollees more likely to disenroll.

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