

Managed Care Issues and Rheumatoid Arthritis Treatment

Based on a presentation by Michael Ward, MD

Presentation Summary

System of payment (whether managed care or fee-for-service) can impact long-term health outcomes and treatment options. Two studies focussing specifically on rheumatoid arthritis found little or no difference in outcomes for patients covered by these pay-

ment systems. However, it was found that unrestricted access to treatment from rheumatologists and the continuity of care provided by these specialists did have a strong positive influence on improving function and reducing disability overall.

Functional disability is the single most important predictor of direct medical costs.¹ Effective treatments to prevent functional disability or to restore function currently include disease-modifying antirheumatic drugs (DMARDs) such as methotrexate and sulfasalazine, joint surgery, and physical and occupational therapy. Some studies have found that the system of payment under which patients and physicians operate has a profound influence on access to care and other long-term consequences, including health outcomes, functional disability, pain, and global health ratings.

There are currently many types of payment systems in the United States but they generally fit under 2 broad categories: fee-for-service and managed care. A comparison between the 2 with regard to the treatment of rheumatoid arthritis (RA) will show the impact that each has on the relationship between access to care and health outcomes.

Two studies explored the relationship between frequency of visits to rheumatologists and orthopedic specialists and rates of hospitalization and health outcomes. One was conducted by myself and colleagues at Stanford University and the other by Yelin et al with the University of California - San Francisco (UCSF).²⁻⁴ Both were prospective, longitudinal, observational studies focussing only on RA (Table 1). Patients were not intervened with by the researchers, but simply observed over the course of time. Both studies started in the early 1980s with the most recent reported follow up being in the early to mid-1990s.

An important difference lies in how the patients were recruited. In the Stanford study they were recruited in the community via advertisement, so anyone could enroll as long as they were later confirmed to have RA by a physician diagnosis. The UCSF study recruited subjects from rosters kept at rheumatologists' offices. Biannual

mailed questionnaires were used in the Stanford study and annual phone questionnaires in the UCSF study.

The Stanford Study

The 282 patients in the Stanford study were followed for more than 10 years. Fifty-two patients were never treated by a rheumatologist throughout their entire course. Because these people may be systemically different from people who see a rheumatologist at least once in their lifetime, they were segregated and the focus was on the remaining 230 who had made at least one visit to a rheumatologist.²

These 230 were divided into 2 groups. One was a group of 69 who had "continuing" care, which was defined as at least one visit to a rheumatologist in each 6-month questionnaire period. The second cohort consisted of 161 patients, who had "intermittent" care—that is they had at least one visit to a rheumatologist, but went without such visits for at least one 6-month interval.

Characteristics of the groups were that the patients were mostly middle aged, well educated, female, white, and married. There was a larger proportion of whites in the continuing care group, and a larger proportion of uninsured patients in the intermittent care group. All had established RA of 12 to 14 years' duration and moderate disabilities.

The primary outcome measure was rate of progression of functional disability as measured by the Health Assessment Questionnaire (HAQ) disability index. This questionnaire, described earlier by Dr. Wolfe, includes 20 questions and asks such things as whether or not the patient was able to shampoo his or her hair, cut meat, open a milk carton—simple activities of daily living. The answers are rated on a scale of 0 to 3, with 0 meaning the patient experienced no limitations and 3 meaning that he or she was unable to perform the tasks. The Stanford study showed that over

time both groups worsened. However, the rate of disease progression in the continuing care group was 0.008 index units, while the intermittent care group had a score of more than double that, or 0.20, a highly statistically significant difference ($P < .0003$). This strongly suggests that those who had continuing care from a rheumatologist had slower rates of progression of functional disability.

Once it was established that the continuing-care cohort fared better over time, treatment differences between the 2 groups were examined. It was seen that 83% of patients in the continuing-care group took at least one second-line medication (D-penicillamine, hydroxychloroquine, intra-articular corticosteroid injections, azathioprine, methotrexate, auranofin, sulfasalazine, injectable gold, or oral gold). There was a somewhat higher usage of these agents among the continuing-care group than in the intermittent-care group. There was no real difference in the use of physical or occupational therapy and little difference in the rate of joint surgery.

The most striking difference was in the proportion of time the patients were treated with these second-line medications. Patients in the continuing-care group were treated with a

Table 1. Studies of Healthcare Use and Outcomes in Rheumatoid Arthritis

	Stanford Study	UCSF Study
Design	Prospective, longitudinal, observational	Prospective, longitudinal, observational
Setting	Northern California	Northern California
Years	1981–1994	1982–1993
Number	282	1025
Recruitment	Community advertisements	Rheumatologists' offices
Assessments	Biannual mailed questionnaire	Annual telephone questionnaire

second-line intervention 69% of the time they were followed in the study compared to 38% of the time for patients in the intermittent-care group. So those treated more persistently by specialists in rheumatology demonstrated better health outcomes over the long term and experienced less functional disability.

Among the 52 segregated patients who had never visited a rheumatologist, it was observed that 30 of them (58%) experienced rates of progression that indicated stable or improving function over time. These may be among the type of patients described earlier by Dr. Wolfe—those who had low levels of disability. So for those 30, the decision they made (or was made for them by a primary care physician) *not* to see a specialist may have been appropriate. However, the remaining 22 (42%) experienced progressive functional disability and may have benefited from seeing a rheumatologist.

The conclusion from this study was that among patients treated by a rheumatologist, those who receive continuing care can be expected to show lower rates of progression of functional disability than those who receive only intermittent care. The main difference also lies not in types of treatment but in the continuity of care, especially with regard to persis-

tent use of second-line medications and other interventions.

The UCSF Study

The UCSF study looked at a very similar question; that is, the relationship between seeing a rheumatologist and long-term health outcomes.

This study had a much larger number of patients, but they were divided in a similar way—those who had continuing care (n = 850) versus those who had intermittent care (n = 173). Continuing-care patients in this case were those who reported that a rheumatologist was their main RA doctor.⁴ The intermittent patients reported seeing a rheumatologist occasionally but considered a primary care physician their main RA caregiver.

The demographics of this study were reminiscent of the patients in the Stanford study in that they were mostly middle aged, well educated, female, and white (Table 2) with established RA of 10 or 11 years' duration on study entry. As with the Stanford study, these patients evidenced moderate levels of functional disability as measured on the 0 to 3 HAQ scale.

Instead of the cumulative outcome of rate of progression that the Stanford study looked at, the UCSF researchers looked at individual differences in each patient year. The follow up in this study was between 10 and 12 years. Outcomes were analyzed separately in each patient year. Researchers for this study found that the HAQ Disability Index was significantly lower for people who reported having a rheumatologist as their main RA physician. These people also more frequently reported that their RA had improved over time (20.6% versus 20.2%) than did those who reported having a primary care physician as their main RA caregiver.

This study was not structured to analyze differences in healthcare utilization or medication use, but did adjust for differences in the use of

Table 2. Patient Characteristics—UCSF RA Panel Study

	FFS (n = 798)	Managed Care (n = 227)	P Value
Average age	58	55	.02
Female	77%	70%	.02
White	79%	82%	.31
Married	60%	72%	.001
Some college	39%	44%	.19
Comorbid conditions	37%	32%	.17

FFS = fee-for-service.

DMARDs. However, this adjustment did not, ultimately, narrow the difference of disease progression between those who were treated by a rheumatologist and those who were not. The suggestion is that the use of DMARDs was not responsible for the observed difference in outcomes. The study did, however, find that when patients were managed by rheumatologists, they were 15 times more likely to be started on methotrexate and 3 times more likely to begin prednisone compared to when they were managed by non-rheumatologists.

The finding in this study is that short-term health outcomes are improved when the main care provider for RA is a rheumatologist, but the degree of benefit is small.

Frequency of Specialist Visits

In looking again at the Stanford study, we see that among 127 patients who visited a rheumatologist at least once each year, the median rate of disability progression between both the continuing-care and intermittent-care groups was .02 HAQ Disability Index units per year, so a steady worsening can be observed. The median visit frequency to rheumatologists was 7.2 visits per year, but a wide range is represented—some patients had 2 visits a year, but others had up to 20.

Looking at Figure 1, the disability index units are on the vertical axis, and average visit frequency to rheumatologists is on the horizontal axis. There is a U-shaped relationship with the nadir of disability progression occurring between 7 visits per year and 11 visits per year.

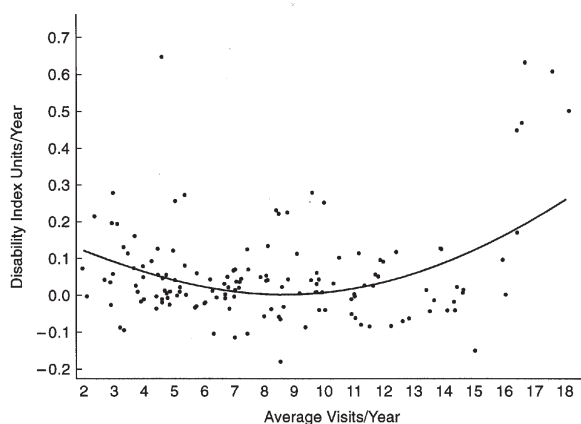
One of the conclusions from the Stanford study was that delayed progression of functional disability is associated positively with a higher frequency of rheumatologist visits. Patients with less than an average of 7 visits per year showed higher rates of progression and than did those with between 7 and 11 visits.

No Differences Between Payment Systems

In the Stanford study, medical insurance status was categorized over the course of the 10 years of follow up. Patients were categorized as being under managed care (n = 125) if they had prepaid insurance during 70% or more of the time of observation. In order to be considered as covered by a fee-for-service plan (n = 57), they had to record indemnity insurance for 70% or more of the time. The remainder of the 282 patients had a plurality in the types of insurance that they used. Some used a majority of managed care or fee-for-service, but for less than 70% of the time. Others had no insurance or were predominantly covered by public insurance. For this comparison, we excluded the latter 2 groups.

The demographic characteristics between the fee-for-service and managed care patients were similar. They tended to be middle-aged, white, female, married, and highly educated. They also had few comorbidities.

Figure 1. HAQ Disability Index Units Related to Frequency of Visits to Rheumatologists



They had comparable levels of disability limitations at baseline—an index that increased slightly over the next 10 years of follow up.

In terms of healthcare utilization, treatments with DMARDs, and treatment with surgery, there were little or no differences between the 2 groups over this 10-year period. There was no difference in the number of visits per year to rheumatologists or orthopedic specialists. There was also no difference between the numbers of hospital days per year for RA or other problems. Regarding treatment, we see that there was also no real difference in the proportion of time that patients were treated with disease-modifying agents—36% of

time for patients in the managed care group received DMARDs compared to 35% of time for the fee-for-service group. And there was no difference in the use of surgery, with 30% of the managed care population receiving some sort of joint surgery compared to 26% of the fee-for-service patients.

Overall, there were no detectable differences in the healthcare utilization and treatments between managed care and fee-for-service patients. How about for health outcomes? There were no real differences on that either. In fact, on a global arthritis status scale of 0 to 100 points with 100 being extremely severe, the mean difference between the managed care group and the fee-for-service group was less than 1 point (Table 3).

With regard to pain and disability, the mean difference in the pain-score index (possible range 0 to 3.0) was 0.005 and 0.012 for disability.

All of these comparisons were adjusted for age, gender, race, socioeconomic attainment, education level, comorbid conditions, the duration of RA, and whether or not these patients used public insurance, or alternately, had periods of no insurance coverage during the 10 years of follow up.

Payment System Comparisons in the UCSF Study

Yelin and colleagues also examined the difference in care between patients who were covered by managed care and those who were covered under fee-for-service.³ In their groups, the fee-for-service patients were slightly older with more comorbid conditions being reported.

The patients in the UCSF study had also been diagnosed with RA for an average of 10 years. The UCSF patients had moderate levels of pain and functional disability and two thirds had been tested as being seropositive for RA factor. Like the Stanford study, the UCSF study used the HAQ Disability Index and a visual analogue scale for pain.

Table 3. Average Differences in Health Status Measures Over Each 6-Month Period Between Patients in Managed Care and Fee-for-Service Settings

Measure	Possible Range	Average Difference	P Value
Global score	0–100	0.84	.77
Pain	0–3	0.005	.96
HAQ Disability Index	0–3	0.012	.92

Table 4. Average Differences in Health Outcomes in the Managed Care Compared to the Fee-for-Service Group: UCSF RA Panel Study

	Mean Difference	95% Confidence Interval
Proportion reporting improvement	-1.7	-4.9, 1.6
Pain score (0 - 100)	-0.3	-2.0, 1.4
Disability Index (0 - 3)	0	-.03, .04
Number of painful joints	.02	-.2, .2
Number of swollen joints	-.02	-.2, .2

As with the Stanford study, the UCSF study concluded that there were few, if any, differences between managed care patients and fee-for-service patients in terms of healthcare utilization, access to specialists, frequency of specialist visits, hospital days, or rates of joint surgery.

In terms of outcomes there was slightly less global improvement evidenced by patients in the managed care group (-1.7%) and pain scores are only marginally in favor of the fee-for-service group with -0.3% fewer managed care patients reporting improvement in pain. Again these scores are not statistically significant, even bearing in the mind the greater numbers of patients involved in the UCSF study (Table 4)

The conclusion from this study echoed the one from Stanford in that healthcare utilization, including for expensive services such as hospitalizations and joint replacements, was very similar among patients in managed care and fee-for-service.

Study Limitations

It must be kept in mind that both the Stanford and UCSF studies had similar limitations. In both studies the patients were mostly white, middle aged, and well educated. There is evidence in the medical literature that older and less economically advantaged patients fare much worse under managed care systems.⁵

The patients in these studies also had long-established RA. It may be that access to treatment and differences in outcomes could have been much different if more patients with earlier rheumatoid arthritis had been included.

These patients also came from the same geographic area—the San Francisco Bay Area. Most of the managed care patients were treated by Kaiser Permanente (70% in the Stanford study and 95% in the UCSF

study). Because of this, caution should be taken in applying these conclusions across the broader range of managed care systems throughout the rest of the country.

The final limitation is that these data are somewhat dated since both studies were started in the 1980s and continued through the early 1990s. In 1999, these historic patterns of treatment may have less relevance to the cost constraints and the pressures of today's healthcare systems. More longitudinal follow up is needed.

Conclusion

Two major studies focusing exclusively on RA have found little or no difference in treatment patterns and outcomes among patients being served by managed care organizations and those covered by fee-for-service indemnity plans.

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