



INSTITUTE FOR CLINICAL SYSTEMS IMPROVEMENT

Guideline Impact Study Summary: Treatment of Low Back Pain

ICSI commissioned the Group Health Foundation (now HealthPartners) in 1994 to evaluate the impact of the Treatment of Low Back Pain in Adults guideline on the clinical outcomes and cost of care associated with the condition at two ICSI-affiliated medical groups. The evaluation plan focused on three specific areas:

1. care provider use of guideline
2. cost changes associated with the guideline
3. patient-reported outcome of care including functional status, pain and satisfaction

The low back pain guideline was designed for the primary care of adult patients with symptoms of low back pain or sciatica. It focuses on management of acute and chronic low back pain including indications for medical nonsurgical/surgical referral.

This summary includes the key features, findings and caveats described in the study.

Methods

The study was conducted at five primary care clinics from two ICSI-affiliated medical groups (A and B). Patients eligible for inclusion in the study were adults who received an ICD-9 diagnosis of low back pain. Excluded from the study were patients who had a visit during the previous six months for a back pain-related diagnosis, previous back surgery, or Workers' Compensation or other financial claims based on back pain injury. About one-third of all patients with a diagnosis of low back pain were eligible using these criteria.

Two groups of patients were evaluated: those obtaining care prior to guideline implementation and those receiving care after guideline implementation. All elements of care related to back problems or their complications during the 90-day period beginning with the date of the first diagnosis were included in the analysis.

In January, 1993, Group B began to use a guideline on low back pain which it developed. That guideline served as the basis for developing the ICSI guideline, which was implemented by Group B in November of 1995. Thus, Group B already was using a similar guideline during the pre-implementation phase of this study.

The guideline recommends phone triage by a nurse, who determines the need and urgency for a clinic visit. Patients presenting with non-urgent conditions which do not require evaluation by a physician are managed through a home self-care treatment program. To the degree that this feature of the guideline was well-implemented, such cases would not be included in the study due to the absence of a clinic visit. Thus, post-guideline implementation data may not be comparable to pre-guideline implementation data.

The comparison of outcomes pre- vs. post-guideline was measured for

- direct costs of care
- care provider use of the guideline
- patient self-reported functional health status at the end of the episode of care
- patient self-reported pain at the end of the episode of care
- patient satisfaction with care at the end of the episode of care

Results

Direct Costs of Care—Pre- vs. Post-Implementation Comparison

	<i>Pre</i>	<i>Post</i>	<i>Change</i>
Standardized mean cost	\$352	\$255	\$97 (p<.01)

Care Provider Use of Guideline—Pre- vs. Post-Implementation Comparison

<i>Item</i>	<i>Group A</i>	<i>Group B*</i>
Use of imaging studies	Frequency too low to compare	Frequency too low to compare
Use of educational self-help materials	Increased from 52% to 65% (p<0.05)	No significant difference*

Patient Self-reported Functional Health Status at End of Episode of Care— Pre- vs. Post-Implementation Comparison

<i>Item</i>	<i>Group A</i>	<i>Group B*</i>
Believed to be in good health	Decreased from 84% to 74% (p<0.01)	Decreased from 84% to 65% (p<0.05)
Expressed more concern for health	Increased from 10% to 23% (p<0.01)	No significant difference*

Patient Self-reported Pain at End of Episode of Care — Pre- vs. Post-Implementation Comparison

<i>Item</i>	<i>Group A</i>	<i>Group B*</i>
Can only stand for short periods	Increased from 22% to 33% (p<0.10)	No significant difference*
Can only walk short distances	Increased from 12% to 21% (p<0.10)	No significant difference*

Patient Satisfaction With Care at End of Episode of Care — Pre- vs. Post-Implementation Comparison

<i>Item</i>	<i>Group A</i>	<i>Group B*</i>
Satisfied with explanation of procedures and tests	Increased from 54% to 65% (p<0.05)	No significant difference*
Satisfied with information given about condition	Increased from 56% to 70% (p<0.10)	No significant difference*

*Group B implemented this guideline prior to the pre-implementation phase of this study. This may have affected the results obtained in this study.

Discussion

Use of the ICSI low back pain guideline in the study sites was associated with significantly lower overall costs of care while maintaining or improving functional status outcomes, back care patient education, and patient satisfaction.

Providers generally followed the guideline, resulting in significant improvement in patient education in the post-guideline period. Further, the fact that post-guideline patients with back pain appeared to be sicker implies that less severe patients may have received care without coming to the clinic, as suggested by the guideline.

There were no measured differences in outcome of care. These analyses were adjusted for patient age, gender, and self-perceived health status to take into account differences in patient characteristics in the two periods. No differences were noted for the entire group in total days of work missed, total work-restricted days, or in the amount of time for symptoms to improve.

It is apparent that care provided after guideline implementation was less expensive than care provided pre-guideline. If the guideline is implemented in all clinics to the degree it was implemented in the five test clinics, the best estimate of savings per year is \$2.4 million per year for an enrolled population of 500,000 adults.

There are several factors that limit the interpretation of the data in this study. The generalizability of the results is limited by the small number of study clinics, and the fact that study subjects were all enrolled in a managed care organization and were drawn from a single geographic area. Prior exposure of the larger clinic in practice group B to a similar guideline probably affected post-guideline results. In addition, because the ICSI guideline recommended phone triage, the percentage of patients post-guideline who had doctor visits probably had more serious conditions than the patients seen pre-guideline when all patients saw a doctor.

Further, in fee-for-service care, telephone care is usually not reimbursed, while the brief office visits are. Thus, to an HMO the lower costs per case of back pain represent savings, but to a fee-for-service practice the differences in cost represent lost revenue. Such financial disincentives may interfere with optimal use of this guideline in fee-for-service settings.