

Disability Prevention

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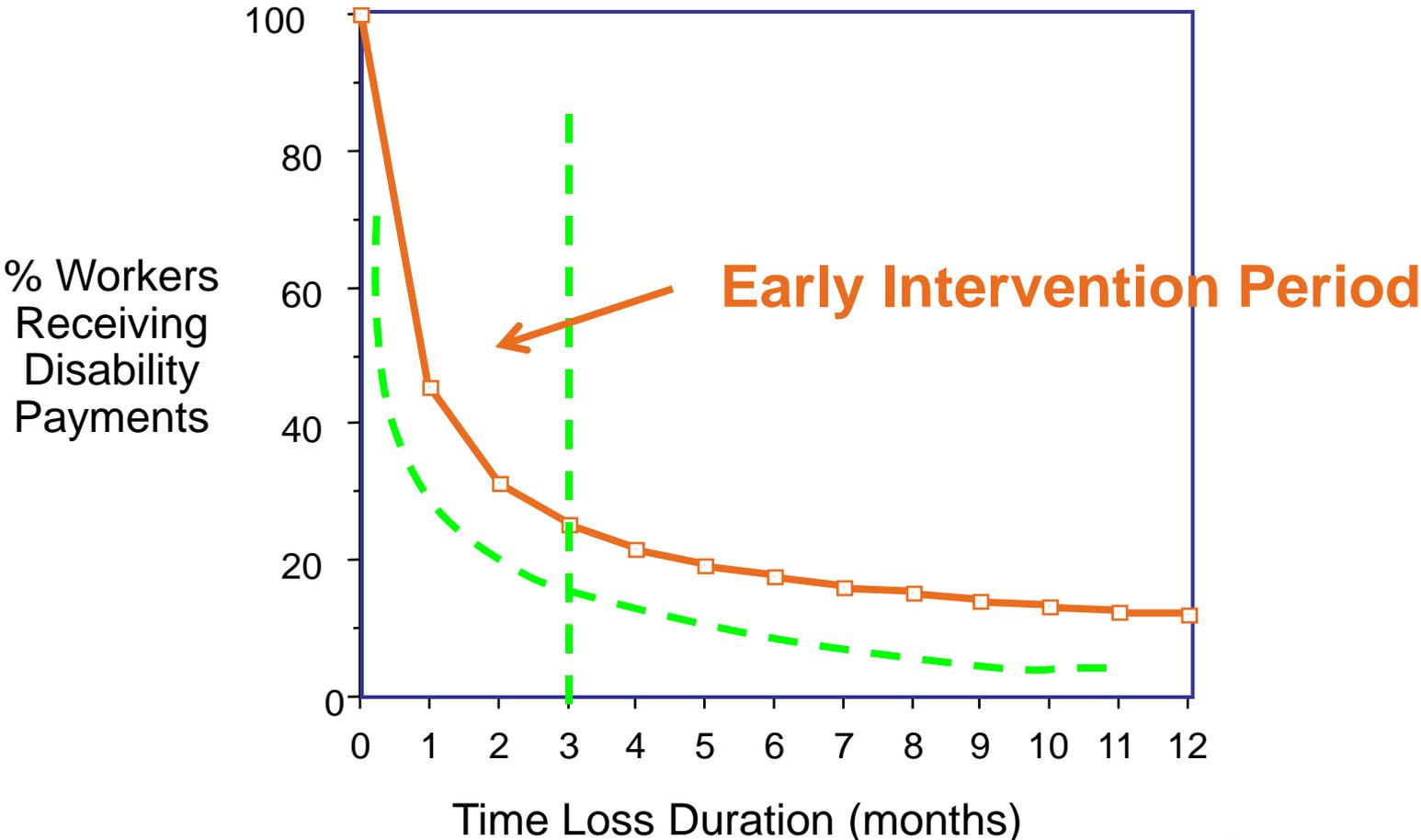
What is the relationship between health care delivery and prevention?

Disability Prevention: Changing the Paradigm



Franklin et al. 2013. Disability Prevention. In: Encyclopedia of Pain. RF Schmidt and GF Gebhart, eds. Springer-Verlag: Berlin. DOI 10.1007/978-3-642-28753-4

Changes in Disability Status among Injured Workers in WA State



Adapted from Cheadle et al. *Am J Public Health* 1994; 84:190-196.

Disability Prevention in Workers' Compensation

Most important risk factor categories

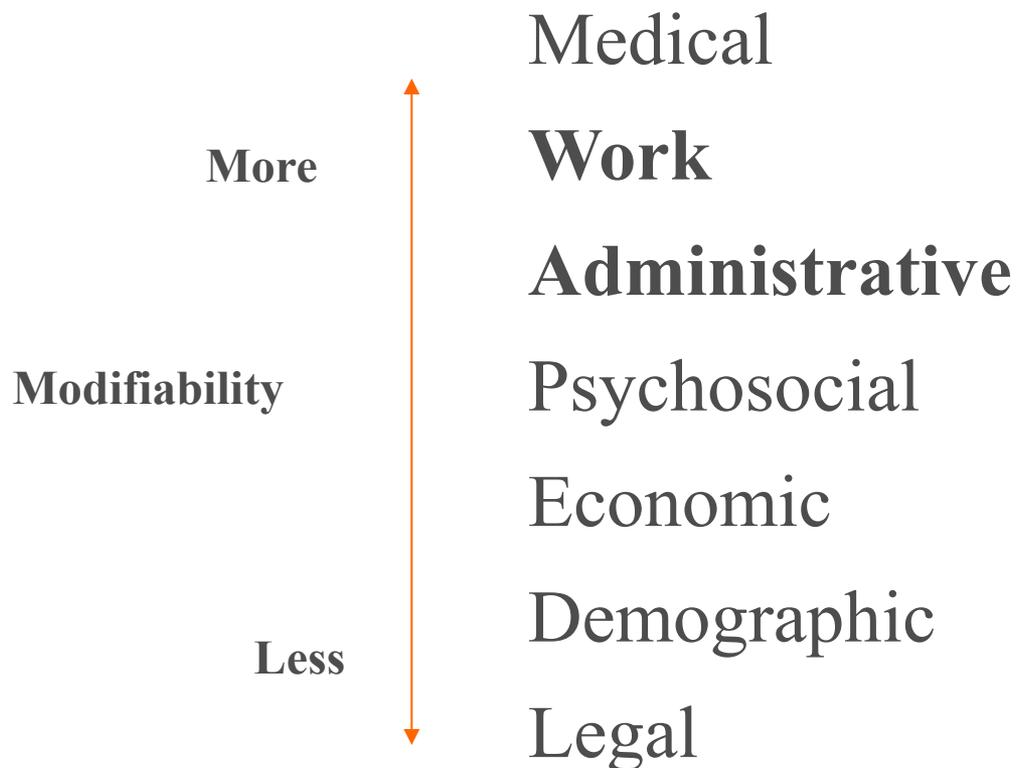


Some partnerships in disability prevention

- Worker
- Employer
- Vocational counselor
- Provider
- Claims and administrative support

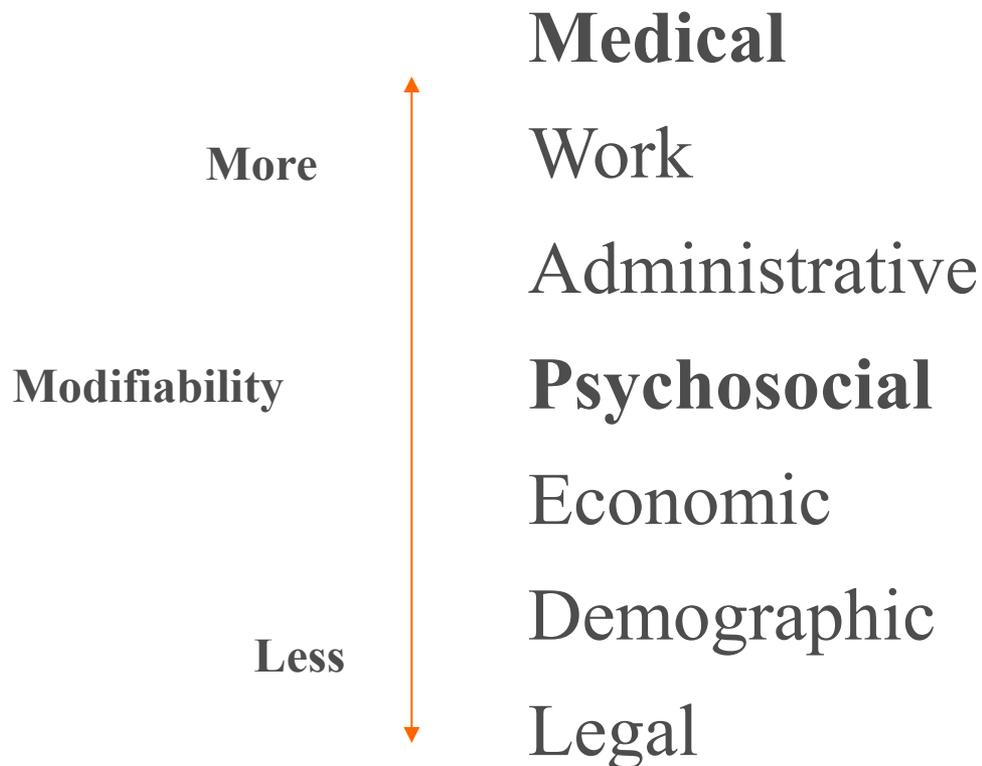
Disability Prevention in Workers' Compensation

Most important risk factor categories



Disability Prevention in Workers' Compensation

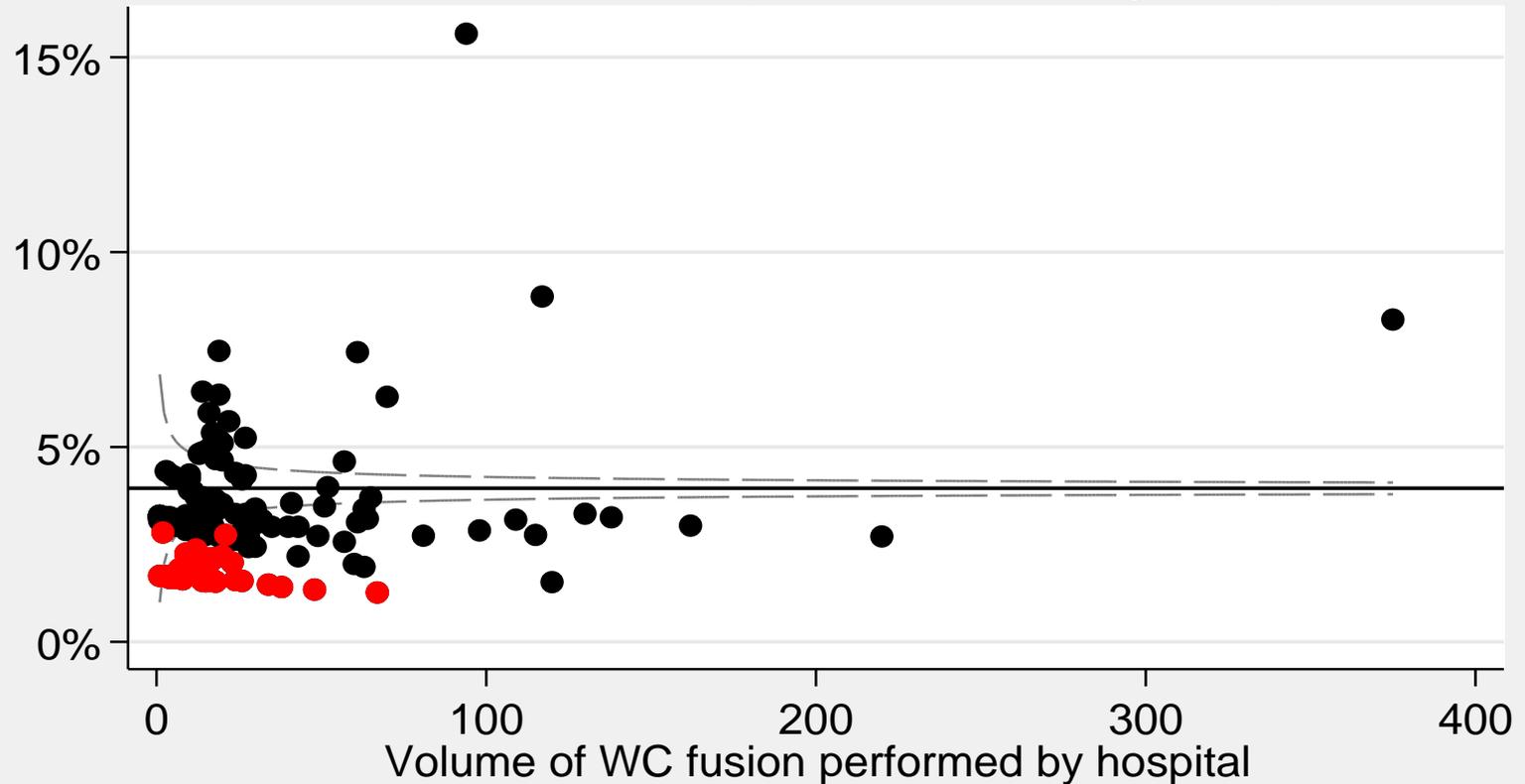
Most important risk factor categories



Strategic Focus in WA State

- **Use best evidence to pay for services that improve outcomes and reduce harms for injured workers**
- Identify efficient method for identification of workers at risk for long term disability
- Incentivize collaborative delivery of occupational health best practice care sufficient to prevent disability

3 month reoperation rates across hospitals in California (Black) and Washington (Red)



Source: SID CA & WA, 2008-2009
Adjusted for age, sex, comorbidity, and diagnosis
Horizontal black line represents overall mean

Martin, BI et al. 2013. How do coverage policies influence patterns, safety, and cost of initial lumbar fusion surgery? Spine J. 2013 Nov 7. pii: S1529-9430(13)01465-4. doi: 10.1016/j.spinee.2013.08.018

L&I Approved Surgeries Before and After Guidelines Implemented

IIMAC GUIDELINES	Year before Guideline	After Guideline
Carpal Tunnel Syndrome (Effective 4/09)	2008 (2008)	1380 (2013 data) 31% reduction
Proximal Median Nerve Entrapment (Effective 8/09)	38 (58 total 2009)	10 (2012 data) 74% reduction
Ulnar Neuropathy at the Elbow (Effective 1/10)	302 (2009)	187 (2012 data) 38% reduction
Radial Tunnel Syndrome (Effective 4/10)	57 (2009)	19 (2012 data) 67% reduction
Thoracic Outlet Syndrome (Effective 10/10)	58 (2009)	30 (2013) 48% reduction

Opiates and Disability

- 1/3 of all workers with compensable low back pain receive an opiate Rx in the first 6 weeks (Stover et al, J Pain 2006; 7: 718-25)
- Receipt of opiates for more than 7 days doubles the risk of one year disability (N-1843) in multivariate analysis (Franklin et al, Spine, 1/15/2008)

Reduce the Development of Preventable Disability

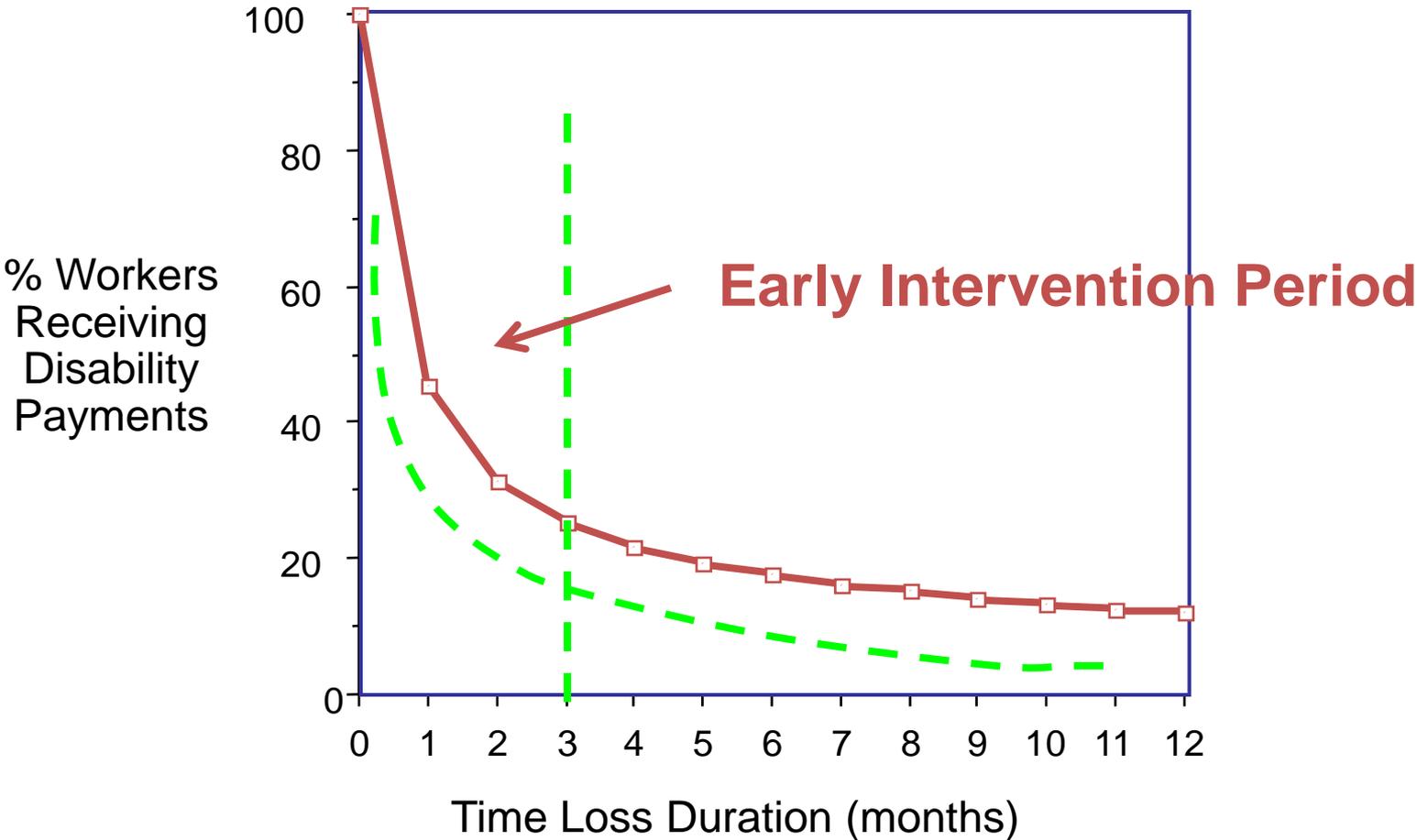
- Decrease the proportion of injured workers on Chronic opioids.

	Baseline: 2012	1Q 2013	2Q 2013	3Q 2013	4Q 2013	TARGET By 6/2015
Percent of claims received with opioids 6-12 wks from injury	4.9%	4.6%	3.3%	1.4%	1.1%	

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Washington Workers' Compensation Disability Risk Identification Study Cohort (D-RISC)*

- Prospective, population based
- Low back injury and carpal tunnel syndrome
- For LBP, N=1885 workers enrolled and completed baseline interview (median 18d)
- Predictors of disability at 1 year

CDC/NIOSH RO1 OH04069-end 8/31/2007

**Turner, Franklin, Wickizer, Fulton-Kehoe et al. ISSLS Prize Winner: Early Predictors of Chronic Work Disability: A Prospective, Population-Based Study of Workers With Back Injuries. Spine 2008; 33: 2809-2818*

Assessed >60 variables in 8 risk factor domains at baseline:

- **Sociodemographic**
- **Employment-related** (e.g., industry, job physical and psychosocial demands, offer of job accommodation, job duration)
- **Pain and function** (multiple measures, including Roland)
- **Clinical status** (e.g., injury severity, radiating pain, previous injuries, comorbidities)
- **Health care** (e.g., provider specialty)
- **Administrative/legal** (e.g., attorney)
- **Health behavior** (tobacco use, alcohol use, BMI)
- **Psychological** (catastrophizing, blame for injury, recovery expectations, work fear-avoidance, Mental Health)

D-RISC–Primary Outcome

At 1 year: 261 of the 1,885 study participants (13.8%) were receiving work disability compensation (information obtained from workers' compensation administrative database).

Job Accommodation Offer

	Disabled at 1 yr, %	Work disability days at 1 yr, median
Offer	7	10
No offer	19	35

Baseline Predictors of 1 Yr Work Disability, Final Multi-domain Model (OR of worst category, adjusted for all other variables in model)

- Injury severity rating (from medical records) (3.7)
- Previous injury with > 1 month off work (1.6)
- Roland Disability Questionnaire score (7.0)
- Multiple pain sites (1.7)
- Job is hectic (2.2)
- No employer offer of job accommodation (1.9)
- First provider seen for injury (ref=Primary care; Occupational Medicine 1.8, Chiropractor 0.4, Other 1.9)

AUC=0.88 (excellent ability to predict 1 year disability)

Conclusions-D-RISC Study

- Factors in multiple domains, internal and external to worker, are important in the development of chronic back-related work disability
- Injury severity is an important risk factor, but even after adjusting for this and other factors, more widespread pain, greater physical disability, job factors, health care provider type, and prior work disability were significant predictors of chronic work disability
- Results support clinical impressions that patients with similar clinical findings vary in disability outcomes, likely due to factors other than biological ones

Conclusions-D-RISC Study

- The biopsychosocial conceptualization of pain might benefit from greater emphasis on environmental factors (e.g., health care provider, employer, and family responses, and work and economic factors) that may interact with biological and psychological factors to affect disability
- Societal problem of chronic disabling back pain will likely require development of new, expanded approaches to prevention and treatment that consider environmental factors

Disability Predictors—Next Steps

- Link risk identification with practical interventions
 - Targeted, graded exercise and incrementally graded activity
 - Education Re: fear avoidance/expectations
 - Workplace modifications
 - Pilot brief questionnaire and interventions in community-based occupational-health pilots (COHEs)

Screening for Disability Risk Linked to Delivery of Occ Health Best Practices

Positive Functional Recovery Questionnaire (FRQ)

- Not worked for pay in past two weeks
- Pain interference ≥ 5
- Back and leg pain **OR** pain in multiple body sites
- Available at <http://deohs.washington.edu/occepi/frq>

Functional Recovery Interventions (FRI)

- Graded exercise/activity
- Address low recovery expectations
- Address any fear of usual activity reinjuring or worsening condition
- Flag additional HSC focus on RTW

Occupational Health Management System (OHMS)

- Facilitates efficient coordination of services
- Can assist with adoption of occupational best practices
- Generates summary reports usable by COHEs, which will later be available to providers
- Provides systematic summaries regarding progress and recovery
- Health service coordinators are prioritizing work using risk scoring focused on reducing disability

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Surgical Best Practices Pilot

- Focus on improving return-to-work planning and care transitions
- Best practices include:
 - Timely and appropriate transition to surgical care
 - Pre-op documentation of return-to-work plans and goals
 - Post-op intervention on return-to-work if necessary
 - Timely transfer of care following conclusion of surgical care
- Pilot includes a care coordinator and medical director focused on integrating best practices, coordinating care, and supporting complex cases

Important components of COHE Model

- This is a health care system, not an insurance company, intervention
- Health care institutional support
- Occupational health leadership
- Business/labor advisory committee

Centers of Occupational Health and Education: Final Report on Outcomes from the Initial Cohort of Injured Workers, 2003-2005

Thomas Wickizer et al. 2007.

Selected Findings

- **Pilot disability effects:**
 - **Time loss incidence: ORs \approx .75 - .80; $p < .01$**
 - **Reduced disability days**
 - **All cases: 4.8 days to 6.0 days, $p < .01$**
 - **Time loss cases only: 15.9 days to 18.0 days, $p < .01$**
 - **Strongest effects: Back sprains, other sprains, CTS**
- **Pilot Cost savings:**
 - **Renton: \$381 per claim, $p < .01$**
 - **Spokane: \$518 per claim, $p < .01$**
 - **60% - 70% of cost savings from reduced disability costs**

Do Cost Savings Increase Over Time?

- **Administrative data for Renton pilot site for outcome year 4 and for Spokane pilot site for outcome year 3 were obtained and analysis was repeated to assess longer-term cost savings effect.**
- **Small percentage of claims account for most of costs. If disability prevention can reduce long-term claims, substantial savings can result.**

Changes in Cost Savings Associated with Longer Follow Up Period

	1 Year Follow Up	Extended Follow Up
Renton	\$381	\$819
Spokane	\$591	\$1,279

Collaboration and vocational services

