

The Tufts Program in Health, Work and Productivity

Institute for Clinical Research
and Health Policy Studies

H & P Improvement

Generally refers to strategies undertaken to prevent, reduce or otherwise manage the adverse effects of a population's health problems on its work performance and productivity.

H & P Improvement Strategies Are Challenging

- The impact of specific health problems is hard to isolate
- The amount of change in health required to produce a change in productivity is usually unknown
- The methods for achieving meaningful change and their costs are unknown

The Work Limitations Questionnaire (WLQ)

Developed By:

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B Amick III

WH Rogers

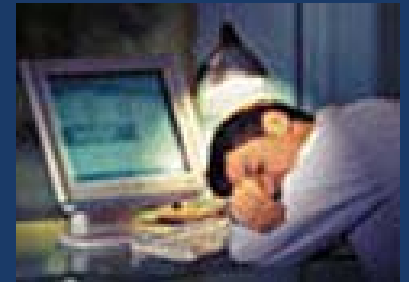
S Malspeis

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and D Cynn

Components of Health-Related Productivity Loss

- Presenteeism —→ WLQ
- Absenteeism —→ Time Loss Index



The Work Limitations Questionnaire (WLQ)

Time Management Scale

In the past 2 weeks, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

(Mark one box on each line a. through e.)

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My Job
a. work the required number of hours	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
b. get going easily at the beginning of the workday	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
c. start on your job as soon as you arrived at work	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
d. do your work without stopping to take breaks or rests	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
e. stick to a routine or schedule	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀

Note: For permission to use the WLQ, contact WLQ@tufts-nemc.org

The Work Limitations Questionnaire (WLQ)

Output Scale

In the past 2 weeks, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

(Mark one box on each line a. through e.)

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My Job
a. handle the workload .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
b. work fast enough . . .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
c. finish work on time . .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
d. do your work without making mistakes. . . .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀
e. feel you've done what you are capable of doing. . . .	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₀

WLQ Levels of Data

25-Item and 8-Item Versions



Time Management Physical Tasks Mental-Interpersonal Tasks Output Tasks

H & P Improvement: Why Start with Depression?

- Common, chronic ailment
- Documented impact on employment
- Strong evidence base documenting effects of detection, diagnosis and treatment on symptoms
- Some evidence that effectively treating symptoms benefits employment
- Many people with depression do not get the care they need

Why More May Be Needed

- The goal of medical care is not aligned completely to the goal of H & P Improvement
- Medicine assesses and treat signs and symptoms of disease
- A clinically meaningful change in disease may not translate into adequate performance and productivity
- Other variables contributing to performance and productivity deficits typically are not addressed

Diagnostic Category by Symptom Grouping

Diagnostic Category	Number of Symptoms	Duration
Major Depression	> 5 depressive symptoms, one of which is depressed mood or anhedonia	> 2 weeks
Minor Depression	2-4 depressive symptoms, one of which is depressed mood or anhedonia	> 2 weeks
Bipolar Disorder	Periods of meeting criteria for MDD plus either periods with > 4 manic symptoms 2 if patient has elevated mood, or > 5 manic symptoms if patient has irritable mood	> 2 weeks for depressive symptoms > 7 days for manic symptoms, shorter duration required if hospitalized
Dysthymic Disorder	3-4 depressive or dysthymic symptoms	> 2 years

The Health and Work Study

- NIMH-Sponsored, 2000-2004
- Screened 14,000 in MA physician offices
- Enrolled 572 (eligible = employed \geq 15 hours/week with no plans to stop working, no major comorbidities)
- Depression Group = 286 (Dysthymia = 72, MDD = 105, Double Depression = 109)
- Healthy Controls = 193
- Rheumatoid Arthritis Group = 93
- Surveyed at BL, Month 6, Month 12, and Month 18

Impact Measures

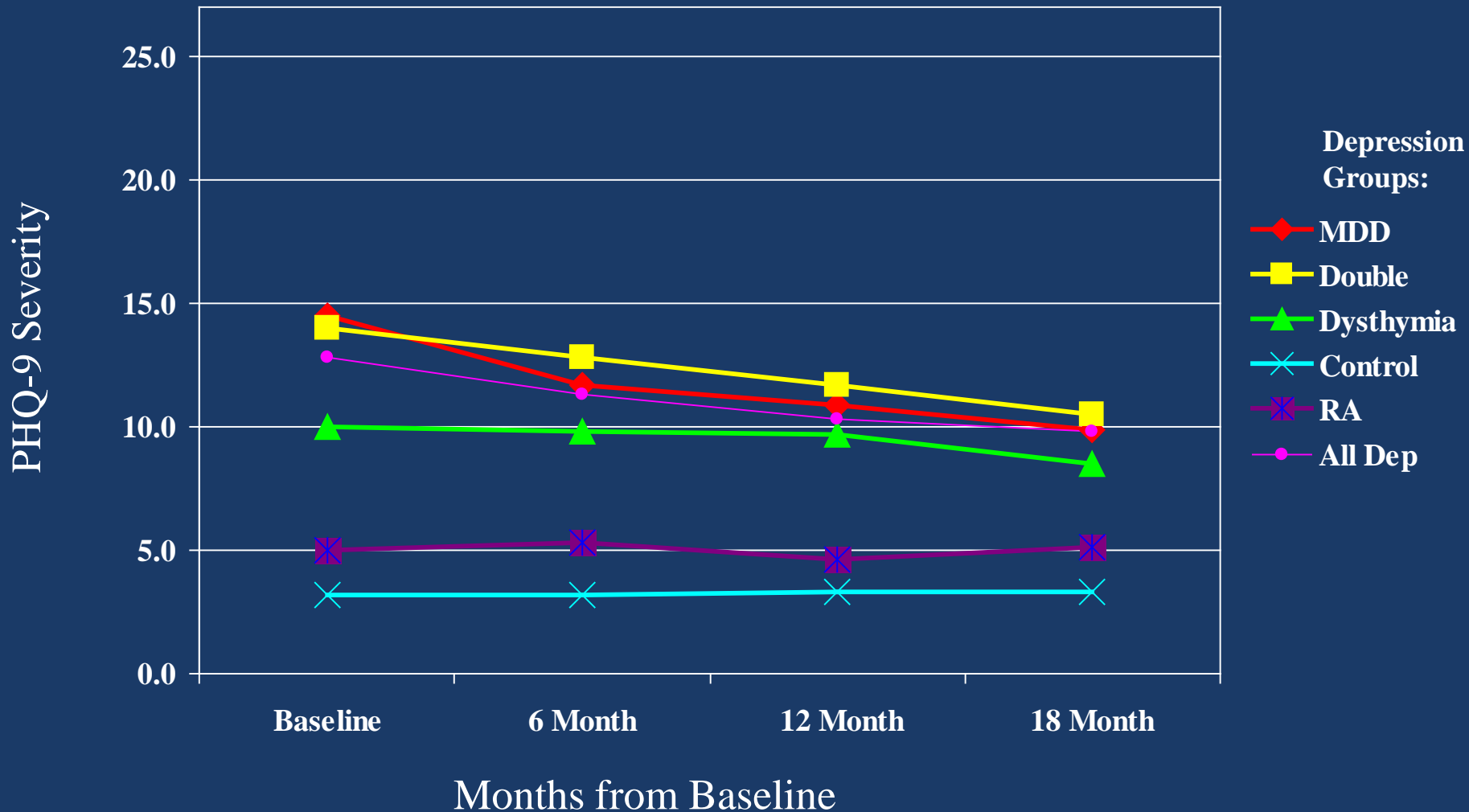
- Unemployment vs. Employment
- Job Retention vs. Turnover
- Absenteeism
- Presenteeism

Health and Work Study: Job Loss Six-Months Later

	Dysthymia	MDD	Double	RA	Control	<i>p</i> -value*
N = 400	51	69	76	72	132	
% Unemployed	12	15	18	3	1	<.0001
% Fired/Laid Off	7	13	8	3	3	.036
% Quit A Job	17	22	14	1	6	.002
% Cut Back Hours	30	36	21	15	16	.008
% Full-to-Part Time	4	12	8	0	0	.001
Number of Days Missed	1.2	2.1	1.8	0.8	0.7	<.0001

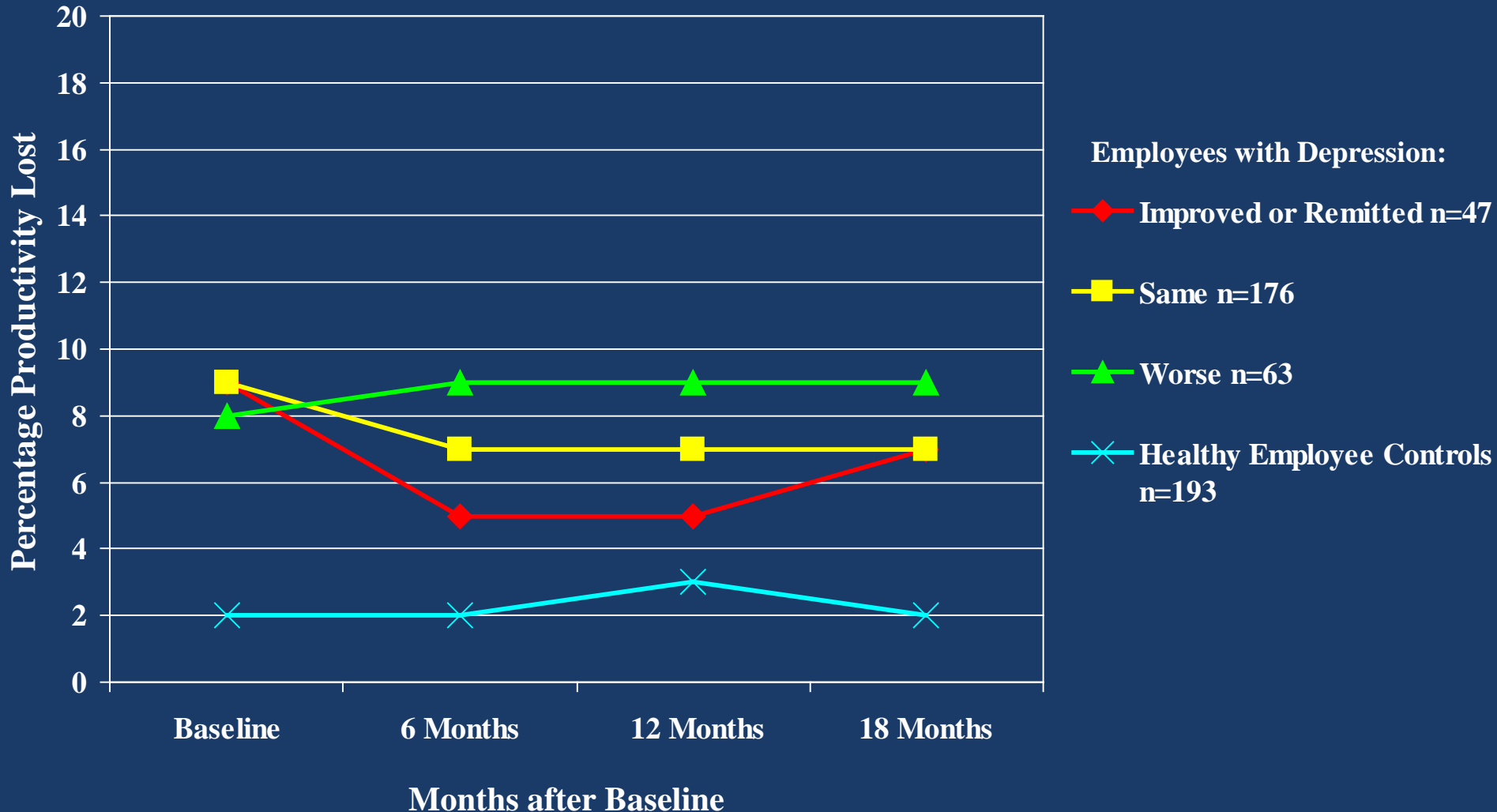
**p* values indicate significance of the difference between Depression versus other two groups; adjusted for age, gender and number of co-morbid medical conditions.

Depression's Burden Persists



Source: Depression and Productive Work Activity Study, D. Lerner, Principal Investigator, 2004.

The Work Productivity Gap



Source: Depression and Productive Work Activity Study, D. Lerner, Principal Investigator, 2004.

Effect of Having the Worst Score on Explanatory Variables vs. the Best Score

WLQ Time Scale

Job Content

Requirement for Use of Judgement and Communication Skills

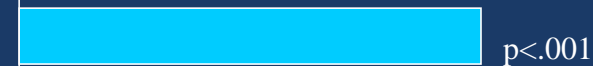


Required to Work with External Customers

NS

Depression Symptoms

Difficulty Concentrating/Fidgety, Distracted



p<.001

Sleep Problems/Fatigue

p<.002

Physical Health

SF-12 Physical Component Scale



p<.001

0 10 20 30 40 50

n=329

$r^2=.35$

p<.0001

Model adjusts for age, gender and education.

Effect of Having the Worst Score on Job and Symptom Variables vs. the Best Score

WLQ Mental-Interpersonal Scale

Job Content

Requirement for Use of Judgement and Communication Skills

NS

Required to Work with External Customers

p=.03

Depression Symptoms

Difficulty Concentrating/Fidgety, Distracted

p<.001

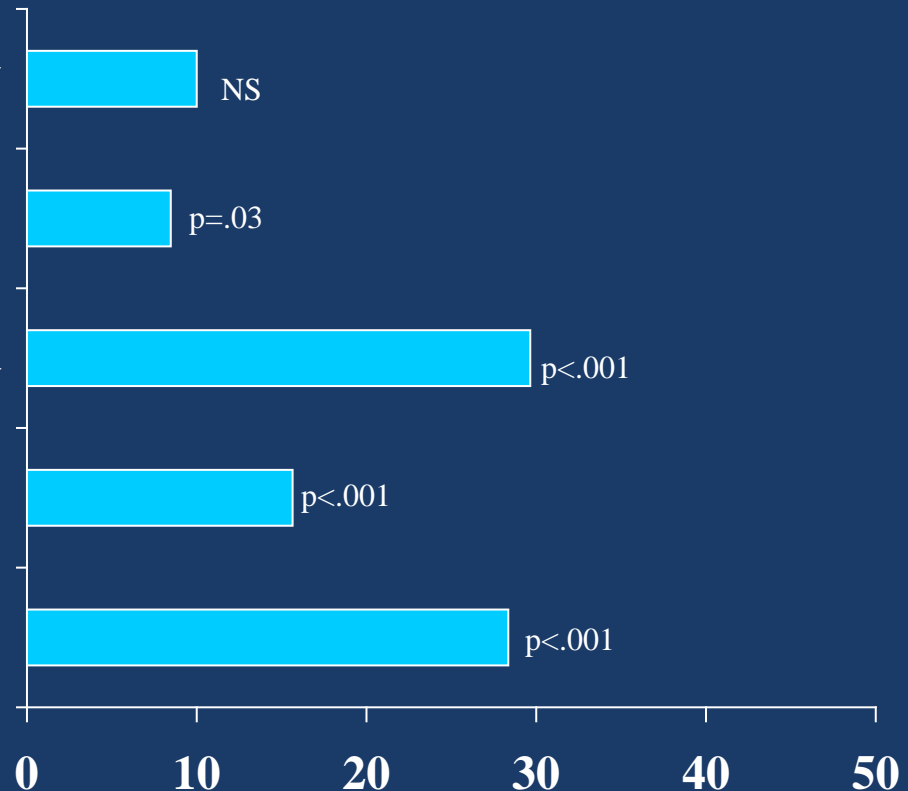
Sleep Problems/Fatigue

p<.001

Physical Health

SF-12 Physical Component Scale

p<.001



n=331

$r^2=.45$

p<.0001

Model adjusts for age, gender and education.

Effect of Having the Worst Score on Job and Symptom Variables vs. the Best Score

WLQ Output Scale

Job Content

Requirement for Use of Judgement and Communication Skills

$p=.01$

Required to Work with External Customers

$p=.34$

Depression Symptoms

Difficulty Concentrating/Fidgety, Distracted

$p<.001$

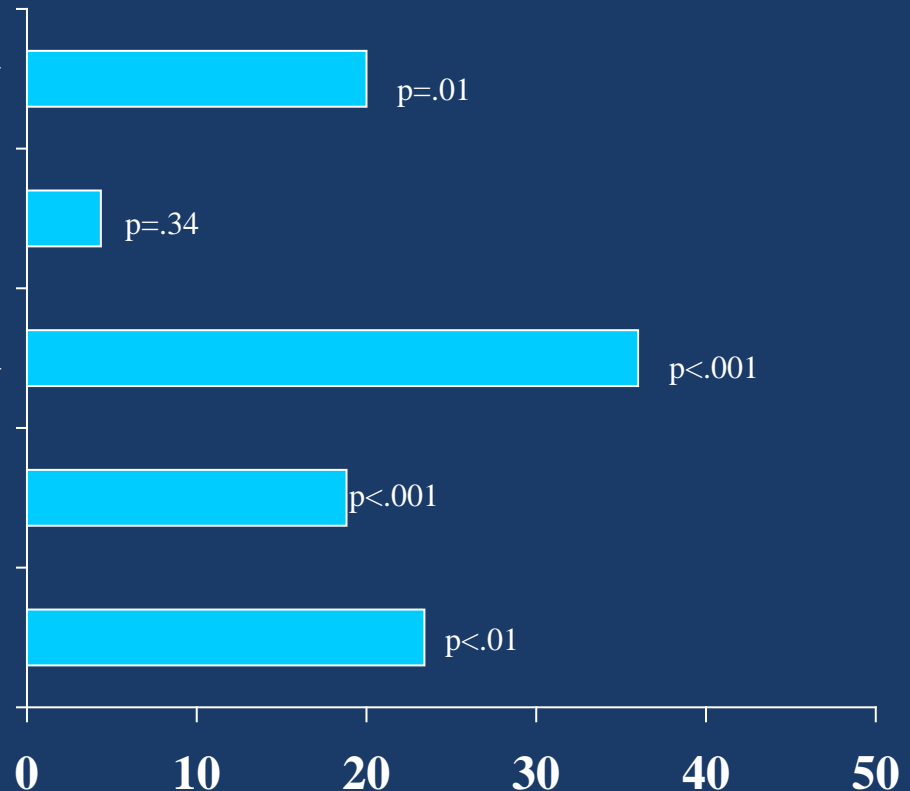
Sleep Problems/Fatigue

$p<.001$

Physical Health

SF-12 Physical Component Scale

$p<.01$



$n=330$

$r^2=.40$

$p<.0001$

Model adjusts for age, gender and education.

Study 1 Conclusions

- Multiple dimensions of job performance are impaired by depression, more so than other common illnesses.
- Impaired performance persists despite symptom improvement.
- Additional efforts are needed to reduce work impairment secondary to depression.

Unique Characteristics of a Workplace Intervention

- Opportunity to detect depression in a community setting
- Use of existing resource:
 - Employee Assistance Program (EAP) counselors
- Opportunity to encourage employer investment by demonstrating “return on investment” (ROI)

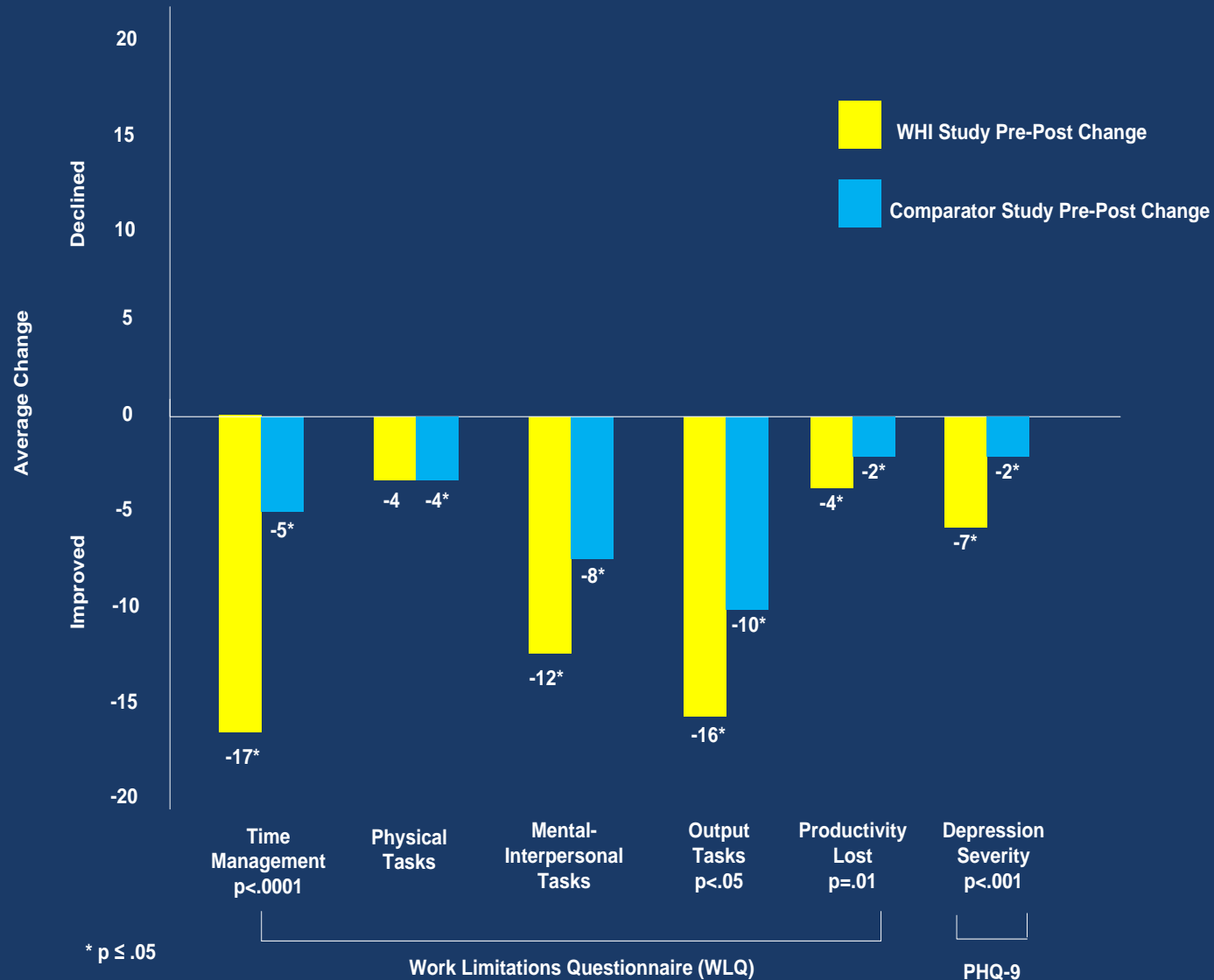
The Work and Health Initiative (WHI)

Aeronautics Manufacturer and Maine State Government

- Web-Based Employee Health Screening with Feedback
- Depressed and Work-Impaired Employees Enrolled in 16-Week WHI Program
- Care Provided by EAP Counselors On the Phone
- Three Care Components
- Medical Care Coordination
- Self-Help using Cognitive Behavioral Therapy Strategies
- Work Coaching

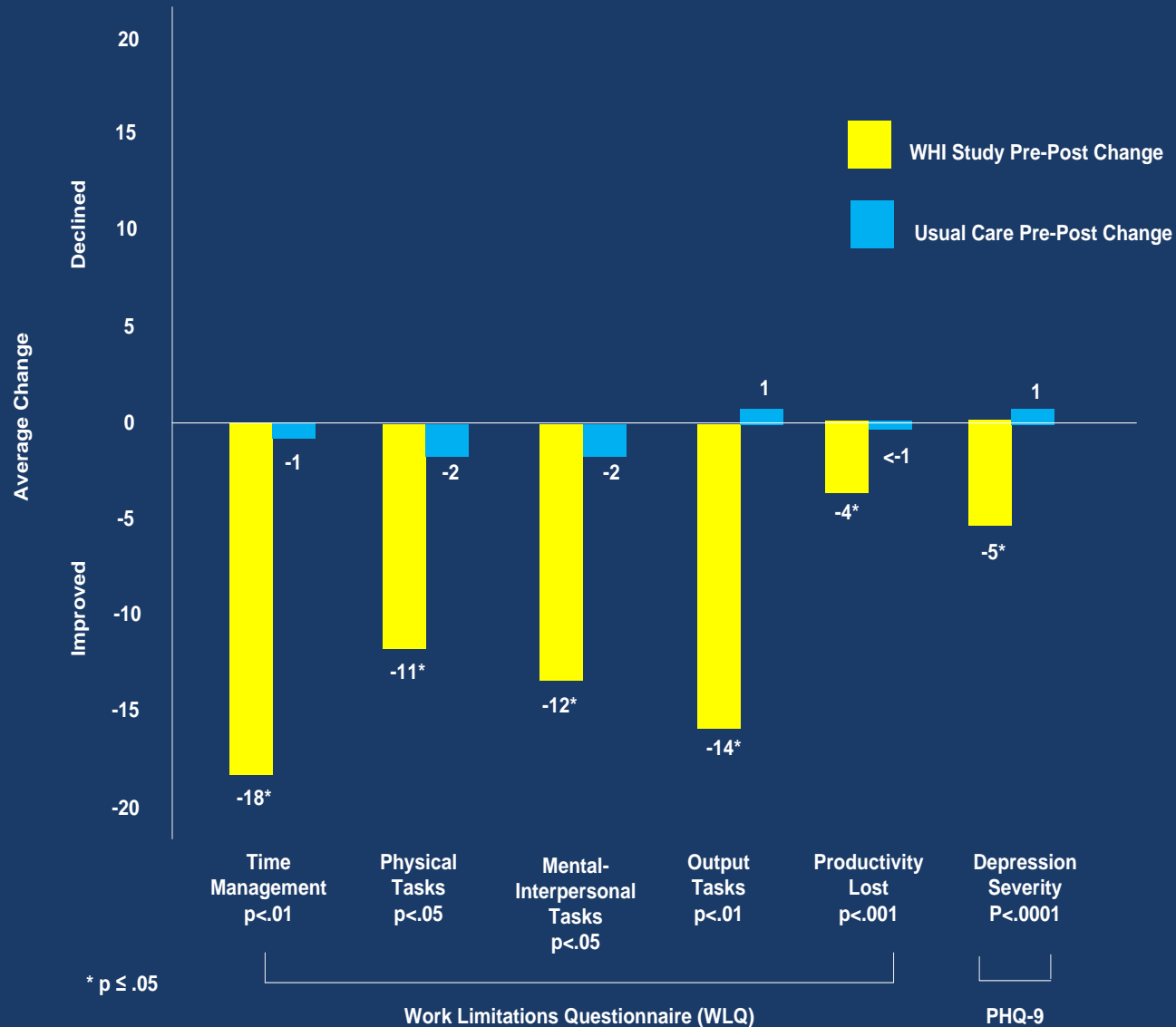
(Lerner, Adler, Rogers and Hermann, 2004-7)

Means and Mean Change Scores From Baseline to 6-Month Follow-Up for WHI and NIMH Sample Aeronautics Manufacturer Study



Mean Change Scores From Baseline to Four-Month Follow-Up

Maine State Government Study: Treatment vs. Usual Care



Summary

- Depression's large human and economic burdens were reduced with the WHI.
- The WHI improved employees' depressive symptoms and work productivity.
- The technology exists to measure the impact of depression and other conditions on workplace functioning.
- The impact of depression on functioning remains among the highest of all medical conditions.