Using Work Outcomes in Comparative Effectiveness Research: Health-Related Work Role Functioning vs. Work Ability

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Today I Will ….

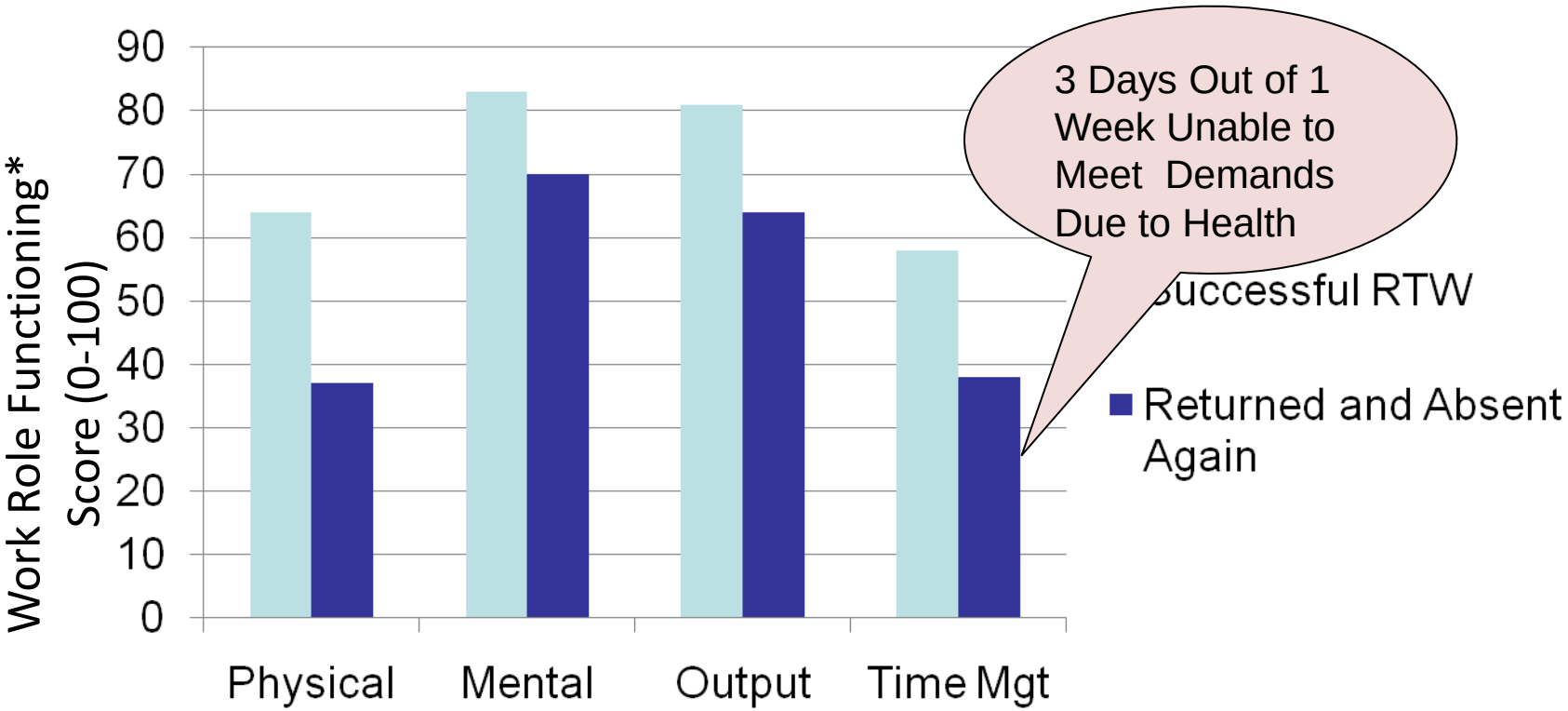
- Provide a working definition of staying at work
- Compare and contrast work ability and work role functioning
- Examine the comparative effectiveness of tools for measuring health-related work role functioning
- Present one conceptual challenge going forward
- Review one practical experience in using work functioning tools to get us thinking
- Suggest four criteria for establishing usable metrics

Truth in Advertising

I Co-Developed the Work Limitations Questionnaire (WLQ) with Debra Lerner

I Co-Developed the Work Role Functioning Questionnaire with Jeffrey N. Katz and Ted Rooney

Return to Work Does Not Equate with Staying at Work

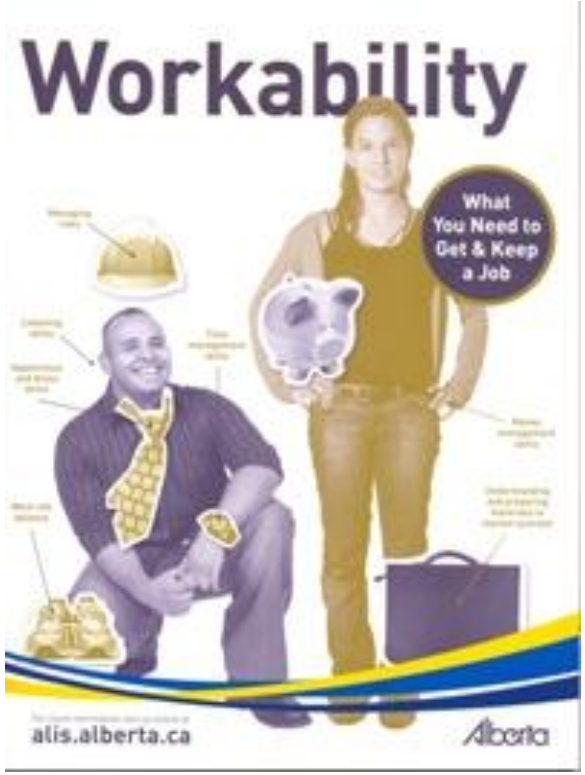


Work Role Functioning* Dimensions

*Measured by WLQ-16

Bultmann, 2007

What Exactly Do We Mean By Staying At Work?



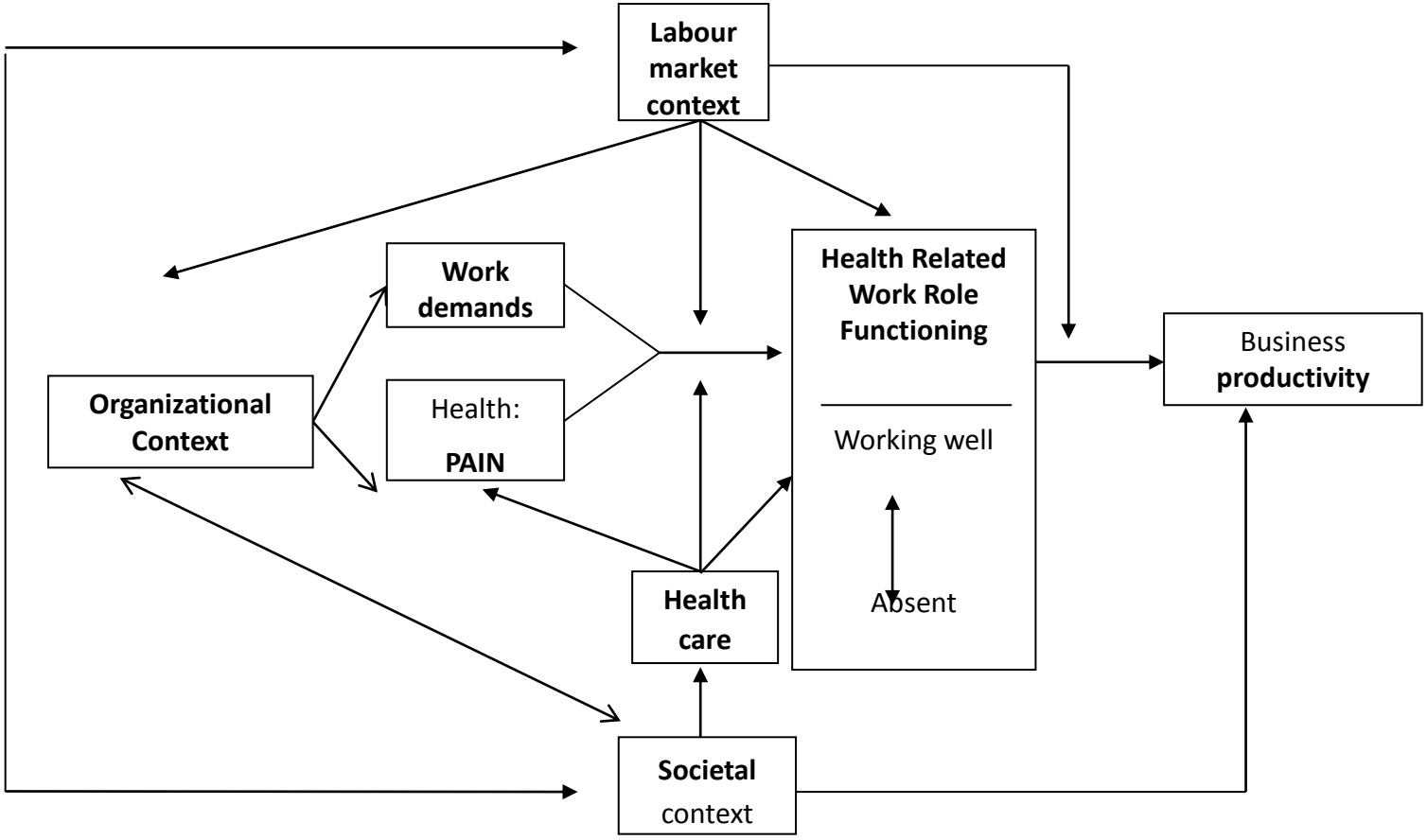
Presenteeism

Is Staying at Work Defined as a Trajectory or a State?

It likely is both! For this presentation I define staying at work as a state of successful health-related work role functioning

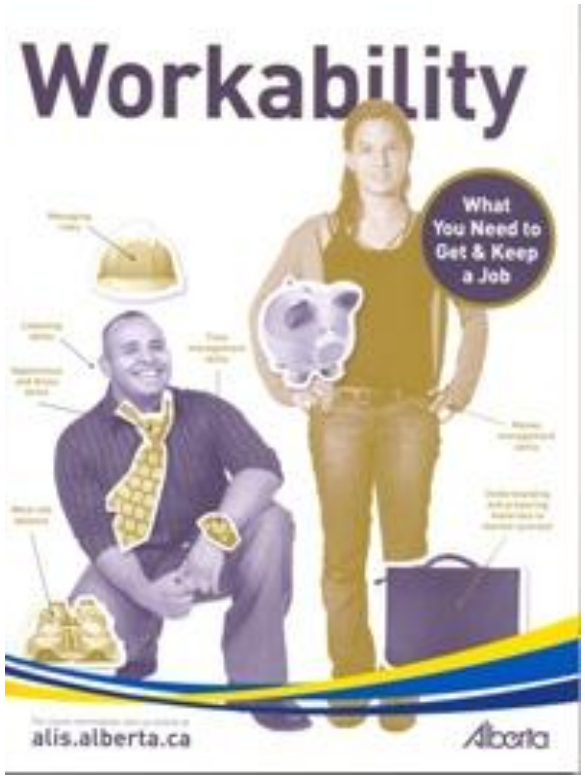
the ability of the worker to meet work demands given current physical and emotional health status

Staying At Work as Health Related Work Role Functioning in Context



Modified Amick & Gimeno, 2009

Is Work Ability As Measured By the Work Ability Index A Measure of Staying At Work?

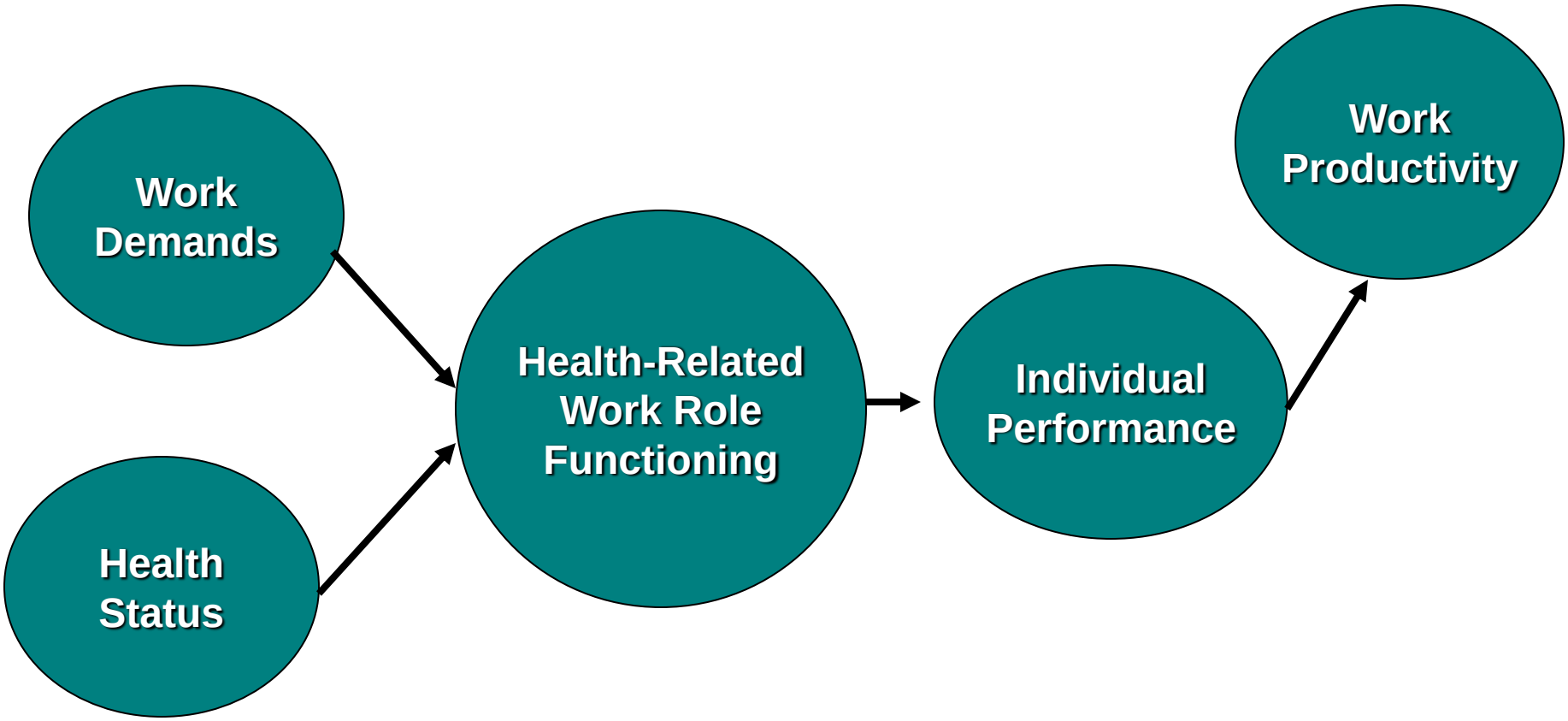


Health-Related Work Role Functioning

Work Role Functioning: WRF-27

- 27 Items covering 5 work dimensions: time management (work scheduling), physical demands, social demands, psychological demands, output demands
- Response categories anchored by % of time to facilitate development of cost algorithms
- Respond about the past 4 weeks
- Applicable to a range of jobs in the economy
- Employs a 'Does Not Apply to My Job' category
- Applicable to a range of illness and disease states

What is the Construct We Are Measuring?

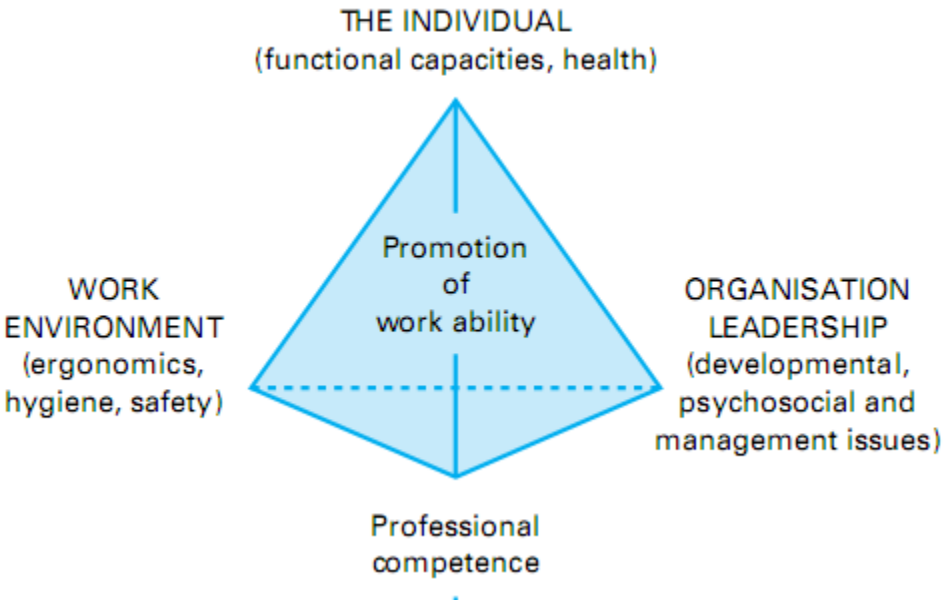


How Is Work Ability Measured?

1. Estimation of Current Work Ability Compared with Lifetime Best
2. Work Ability in Relation to both Physical and Mental Demands of Work
3. Number Physician Diagnosed Diseases (big list)
4. Estimation of Work Impairment Due to Diseases
5. Sickness Absences (Leave) During the Past Year
6. Prognosis of Work Ability After 2 Years
7. Mental (Psychological) Resources

Ilmarinen, 2007

Is Work Ability Different Than Work Role Functioning? What Does the Construct Indicate?



Ilmarinen, 2001

Lets Contrasts The Value Propositions

Work Role Functioning Captures Percent Time so Directly Translatable into a Measure of Health-Related Economic Behavior At Work

Work Ability Has No Anchors on Its Ruler – Reminds me of SF-36- With Constructed Cut Points That Direct Clinical Action

Even If We Eliminate Work Ability - What Tool Should We Choose To Assess Successful Work Role Functioning?

COSMIN Methodology

- Reliability
  - Scores for individuals who have not changed are the same for repeated measurement under several conditions
- Validity
  - Instrument measures the constructs it purports to measure
- Responsiveness
  - Ability of the instrument to detect change over time in the construct to be measured
- Interpretability
  - Ability to assign qualitative meaning to an instrument's quantitative scores or change in scores

*consensus-based standards for the selection of health status measurement instruments ; Mokkink, J Clin Epi 2010

In Arthritic Populations No Tool Rises to the Top

Scales	Reliability	Item-to-Scale Corrs	Construct Validity	Responsiveness
Workplace Activity Limitations	√	√	√	√
Stanford Presenteeism	-	-	√	√
Endicott Work Productivity	√	√	√	√
Work Instability	√	√	√√	√
Work Limitations Questionnaire	√	√	√	√√

Beaton 2010

In Anxiety Patient Population Work Limitations and Work Productivity and Activity Questionnaire Rise to The Top

Scales	Reliability	Disease Severity Groups	Sensitivity to Clinical Change	Ease of Administration
Functional Status Qxt Work Performance Scale	√	-	-	-
Work Productivity and Activity Impairment Qxt	-	√	√	√
Endicott Work Productivity	√	-	-	-
Work Limitations Qxt	√	√	√	-

Erikson 2009

In Call Center Employees With Depression and Anxiety Work Limitations Questionnaire Rose to The Top

Scales	Known Health Groups	Disease Severity Groups	Sensitivity to Clinical Change
Presenteeism Days	√	-	-
Inefficiency Days	√	-	-
Stanford Presenteeism Scale	√	-	-
Work Limitations Qxt	√	√	√

Sanderson 2007

In Populations With Upper Extremity MSDs We Know Something About the Ruler for 2 Tools

Work Limitations Questionnaire
Range 0-100

40 - difficulty

20 – no difficulty

13 Point Δ a CID

Work Instability Scale
Range 0-24

16 - difficulty

10 – no difficulty

4 Point Δ a CID

Sebastian, 2010

Over the Same 2 Week Period, Lost Productivity Estimates Vary Wildly in a Population with Arthritis for 4 Tools

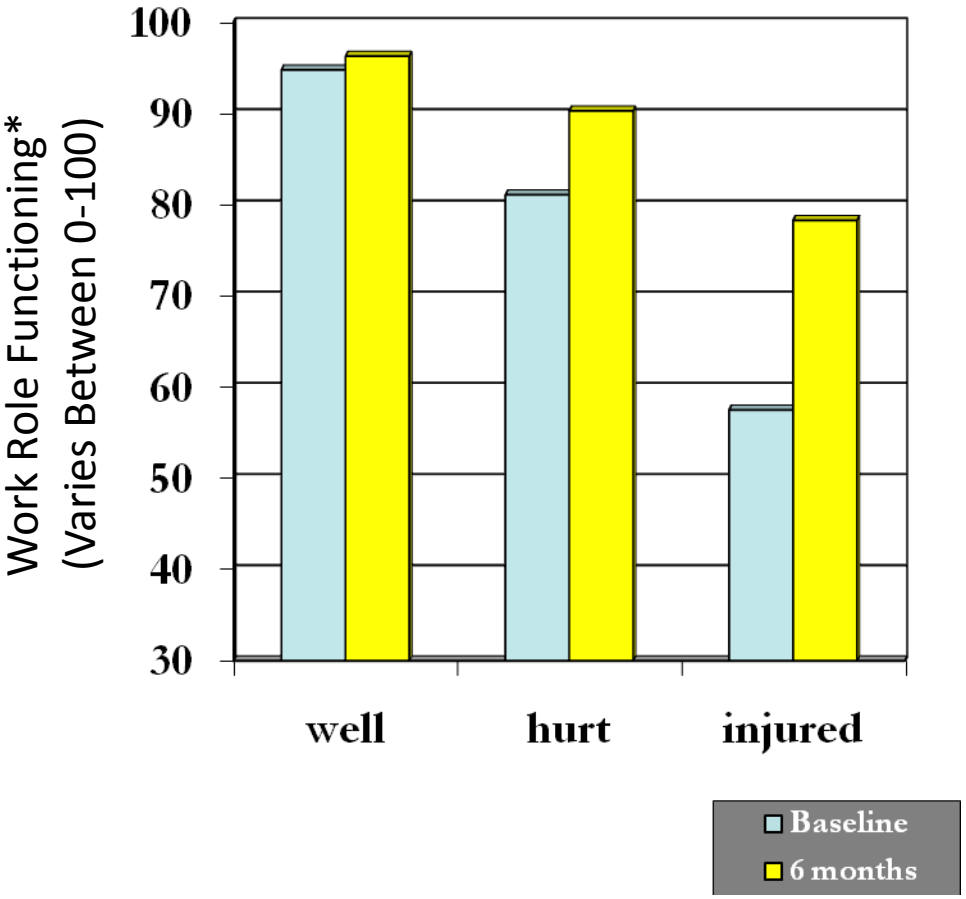
- HLQ $30.03(CN)
- HPQ $284.07 (CN)
- WPAI $285.10 (CN)
- WLQ $83.05 (CN)

Zhang, 2010

One Challenge is That Work Functioning Measures May Differentiate Groups and Not Individuals

Consequently it may be useful as a tool for classifying workers but not for monitoring individual improvements

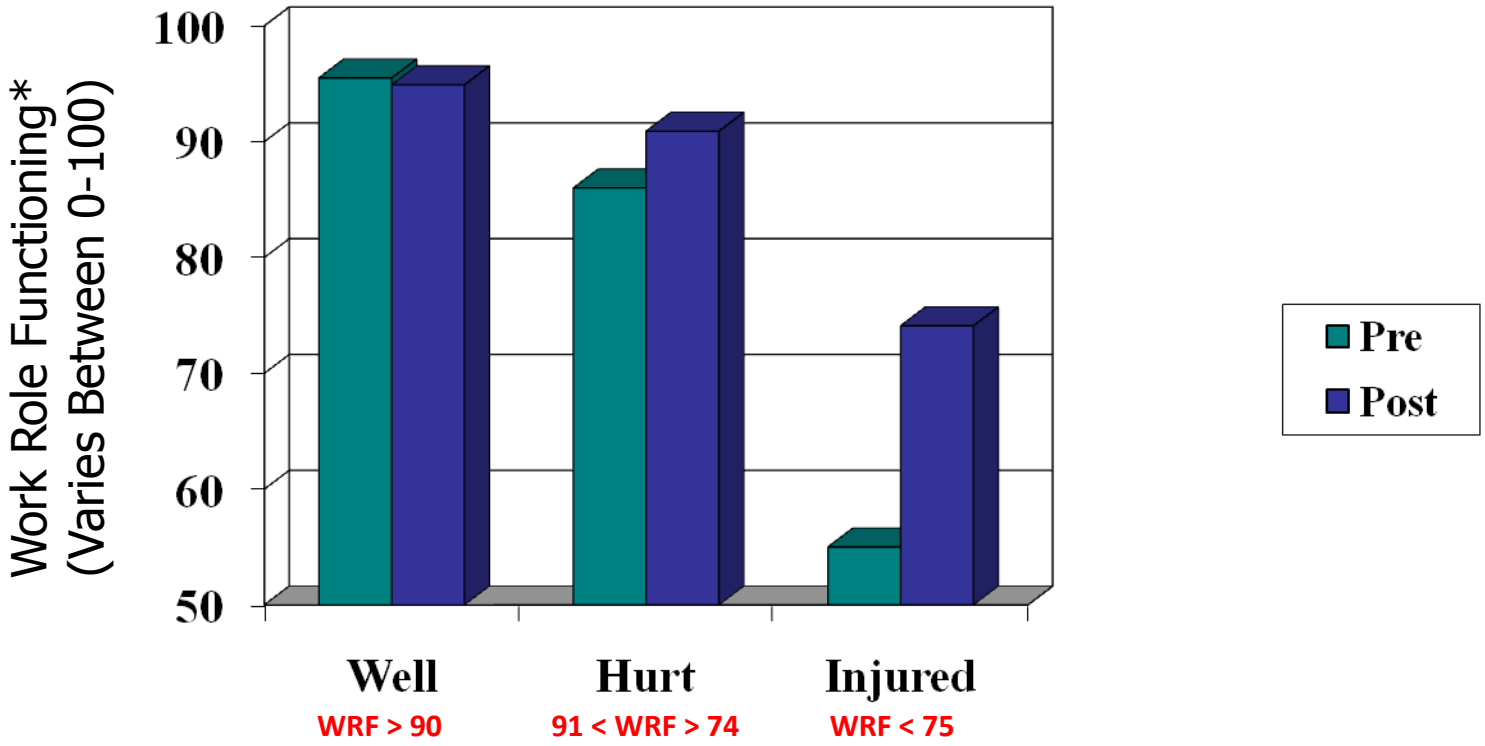
Interpreting Prognostic Value May Not Be Simple: Carpal Tunnel Surgery



- Working Well is >90 on Work Role Functioning
- Working Hurt is between 75 and 90 on Work Role Functioning
- Working Injured is less than 75 on Work Role Functioning

*Measured with WL-16

Interpreting Change May Not Be Simple: New Office Chair and Training

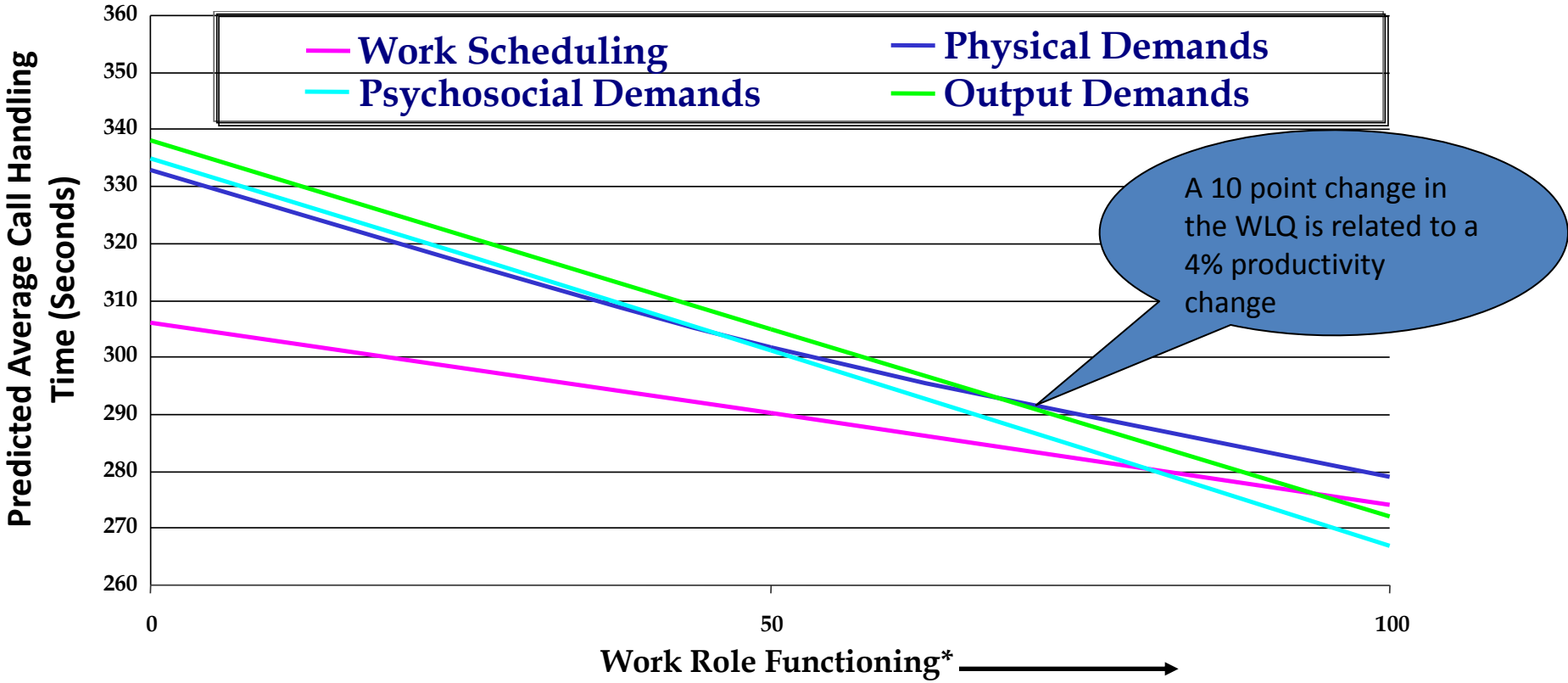


Source: Unpublished Data

What Did We Do At One Company?

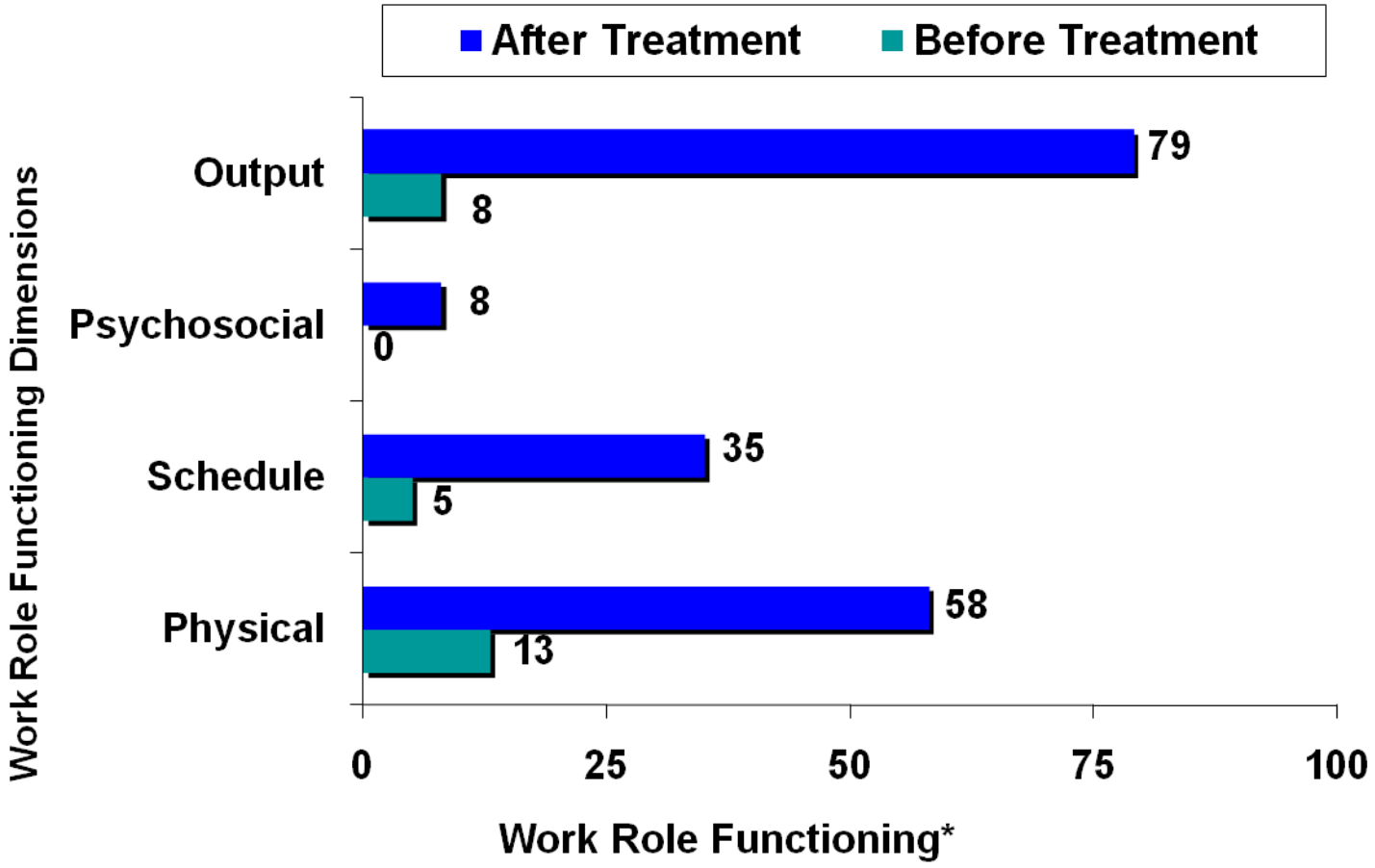
LL Bean is in Maine in the USA

We Linked Work Role Functioning to LL Bean Productivity Data to Provide a Benchmark



Lerner and Amick 2001,
*WLQ-25

We Worked With their Physical Therapy Department to Document Effectiveness and Change Process of Care



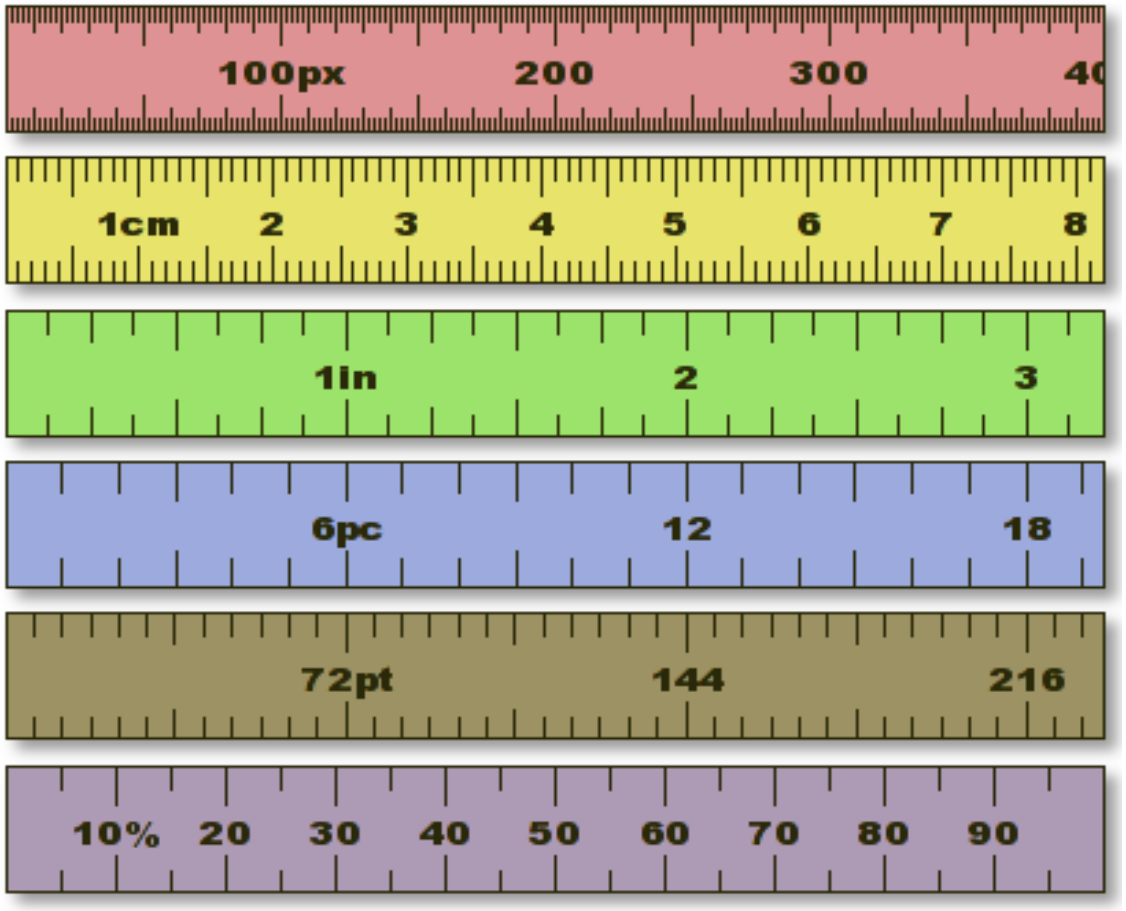
*Measured By WLQ-25

Amick et al, 2000

What Do We Need to Do?

We Need To Choose A Tool?

But what about PROMIS



How Do We Need To Do This?

- Use Best Evidence
- Fight Marketing & Consulting Tools
  - ‘health & productivity’ hype
- Lets not be trapped by the first generation of tools
  - Careful – a new tool does not mean it is a second generation tool
- Build the ‘Real’ Evidence Base
  - Use a solid clinimetric foundation to build metrics

Where We are Going is Not a Walk in The Woods

It Is A Fast Moving Freeway

Criteria For Use In Comparative Effectiveness In Occupational Health Services Research

- Use Best Comparative Effectiveness Clinimetric Evidence
  - Need solid clinimetric work to begin
- Does the Tool Have A Value Proposition (End User Face Validity)
  - Will key decision makers see value
  - Does it make sense in the labor market
- Ease of Administration
  - Can the tool be used with minimal burden
  - Can the tool be used by All workers

Criteria For Use In Comparative Effectiveness In Occupational Health Services Research

- Ease of Interpretability
  - Does it allow an economic interpretation
    - One value proposition for leaders and decision makers
  - Does it relate back to work practices
    - One value proposition for supervisors, workers and health care providers

We Must Build on the Success of the Past

Moving Forward With Health-Related Work Role Functioning Questionnaire

- Builds on work of WLQ and WRF as a class of generic role functioning outcome measures
- WRF already translated in to French-Canadian, Danish, Dutch and Portuguese
- Active work in Spain and Sweden to conduct cross-cultural translation and examine validity
- Linking it with City of Houston, CIGNA and Kelsey/Seybold data

Questions?