



From Patient to Productivity

Effectiveness of Evidence-Based Guidelines in the Clinical Environment

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Agenda

- Helping Patients Return to Productive Lives: The Importance of Clinical Guidelines
- Using Guidelines in the Clinical Setting
- Measuring Performance
- How Guidelines fit into Kaiser Permanente's Vision and Strategy
- Applying Learnings from Occupational Health to Population Health



Helping Patients Return to Productive Lives: The Importance of Clinical Guidelines

Practice Guidelines Support Clinical Decision-Making

- Based on ACOEM (*American College of Occupational and Environmental Medicine*) evidence-based recommendations
- Clinical content for prevention, diagnosis, prognosis, follow-up, and treatment
- Physician-supported patient education
- Integrated with Disability Duration Tables

ReedGroup[®] MDGuidelines[®]

Search for a topic or medical code...

Resources ▾ Tools ▾

Low Back Pain

ICD-9-CM ICD-10-CM ICD-10 (WHO)

CONTENTS

- Length of Disability
- Workflows
- Treatment
- Diagnosis
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- Prognosis
- Differential Diagnosis
- Overview
- Causation and Known Risk Factors
- Rehabilitation
- Comorbidities
- Complications
- Ability to Work
- Failure to Recover
- Hospital Costs
- References

↑↓ REORDER

Length of Disability

Length of disability will depend on the origin of the back pain and the individual's response to rest or therapy.

Nonspecific treatment, low back pain.

JOB CLASS	MINIMUM	OPTIMUM	MAXIMUM
Sedentary	0	1	14
Light	0	3	14
Medium	1	14	56
Heavy	3	28	84
Very Heavy	3	42	91

Factors Influencing Duration

Factors include occupation, age, and conditioning of the individual. Compliance with treatment and recommended home care will influence the duration. Any conditions affecting the spine could prolong recovery. The individual's need and ability to obtain secondary gains from the pain could lengthen disability time. Psychological assessment is crucial in cases with prolonged disability and no obvious specific spinal disorder.

Workflows

ACOEM Guidelines for Care of Acute and Subacute Low Back Pain
Initial Evaluation of Acute and Subacute Low Back and Radicular Pain
Initial Follow-up and Management of Acute and Subacute Low Back and Radicular Pain
Evaluation of Subacute or Slow-to-Recover Patients with Low Back Pain Unimproved or Slow to Improve (>4 Weeks)
Surgical Considerations for Patients with Evidence of Nerve Root Compression and Persistent Low Back

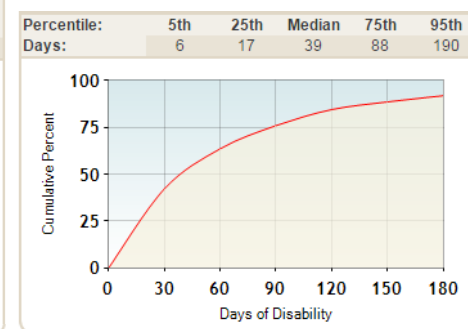
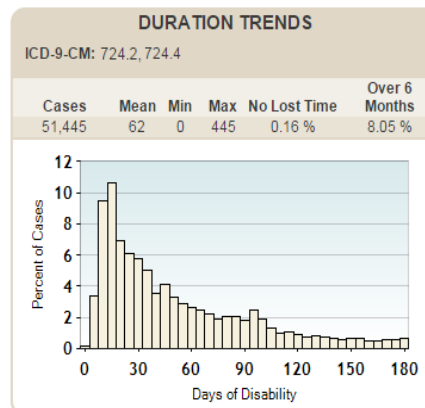
AMERICAN COLLEGE OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE



Disability Duration Tables Inform Transitional Activity Progression

Benchmark Cases Against Normative Data

- Based on more than 5 million observed cases collected and reviewed by clinical professionals
- Reflects Medical and Non-Medical (Psychosocial) Factors



Manage Cases to Physiological Duration Tables

- Reflects physiological healing times determined by Medical Advisory Board
- Excludes Non-Medical Factors

Medical treatment, rotator cuff syndrome.

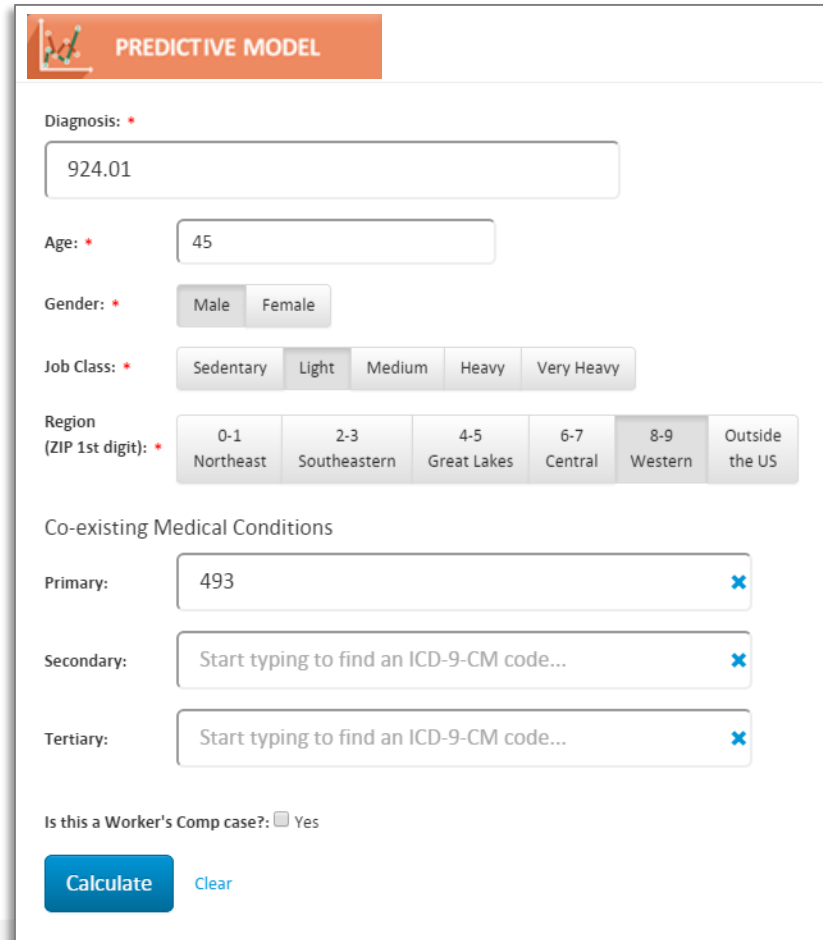
DURATION IN DAYS			
Job Classification	Minimum	Optimum	Maximum
Sedentary	0		
Light	0		
Medium	14		
Heavy	28		
Very Heavy	28		

Surgical treatment, arthroscopic rotator cuff repair.

DURATION IN DAYS			
Job Classification	Minimum	Optimum	Maximum
Sedentary	7	10	21
Light	7	10	42
Medium	28	42	70
Heavy	56	84	112
Very Heavy	70	112	140

Predictive Modeling Tools Refine Duration Estimates

- Helps refine duration estimates with demographic data (e.g. age, gender, job class, geography) and co-existing medical conditions
- Model continually improves based on increasing Reed Group normative data set



The screenshot displays a web-based predictive model interface. At the top, there is a header with a line graph icon and the text "PREDICTIVE MODEL". Below this, the form is organized into several sections. The "Diagnosis:" section has a text input field containing "924.01". The "Age:" section has a text input field containing "45". The "Gender:" section has two radio buttons, "Male" and "Female", with "Male" selected. The "Job Class:" section has five buttons: "Sedentary", "Light", "Medium", "Heavy", and "Very Heavy", with "Light" selected. The "Region (ZIP 1st digit):" section has six buttons: "0-1 Northeast", "2-3 Southeastern", "4-5 Great Lakes", "6-7 Central", "8-9 Western", and "Outside the US", with "8-9 Western" selected. The "Co-existing Medical Conditions" section has three input fields: "Primary:" with the value "493", "Secondary:" with the placeholder text "Start typing to find an ICD-9-CM code...", and "Tertiary:" with the same placeholder text. Each of these three fields has a blue "X" icon in its top right corner. At the bottom of the form, there is a checkbox labeled "Is this a Worker's Comp case?:" with "Yes" selected. Below the checkbox are two buttons: a blue "Calculate" button and a "Clear" link.



Why Return-to-Productivity Matters

“ There is a large and growing body of scientific evidence that return-to-work usually provides **significant overall health benefit**, and staying off work needlessly results in poorer overall health outcomes.

Employers, employees (patients), and insurers all benefit from individuals returning to work in usual time periods. ”

— *James B. Talmage, MD*
(Author of AMA Guides to the Evaluation of Work Ability and Return to Work)



Using Guidelines in the Clinical Setting



Major Milestones – Kaiser Permanente's Implementation of ARx / MDGuidelines

- 2008** • Physician needs-assessment to identify disability-related tools and resources
- 2009** • Development of Activity Prescription Form (ARx) begins
 - Contract with Reed Group to enable physicians' access to MDGuidelines from ARx
- 2011** • Initial rollout of ARx with MDGuidelines in NCAL and SCAL regions
 - Provide clinicians with training on core disability concepts
- 2012** • Completion of ARx/MDGuidelines rollout in 5 remaining Kaiser Permanente regions
- 2014** • Engagement with Reed Group to benchmark clinical use of MDGuidelines
- 2015** • Identify stakeholders and resources for obtaining data for analytics
 - Review data values captured by Kaiser Permanente using the ARx
 - Share de-identified aggregate data of top diagnoses with Reed Group
 - Review data analytics and findings

Generating Internal Awareness and Adoption of Guidelines

- Provide all clinicians access to ARx with embedded MDGuidelines
- Integrated care delivery allows for access via the electronic health record
- Provide web-based disability management training, “*Clinician Resources for Work Disability Prevention and Management*”

WORK TAB (This sample screenshot illustrates the comprehensiveness of the ARx Tool and may not be a typical patient presentation.)

Quick link to specific Reed Disability Duration guideline

Off Work Rx

From: 8/15/2012 2 Day(s)

Through: 8/16/2012 ☐ AM Only ☐ PM Only

Reason: Uncontrolled Symptoms

Disability Duration Guide: MMN Off: 2 Days

Enc Dx - Select max of 4 ☐ F/U Dx? ☐ MMN Off

☒ SPRAIN OR STRAIN OF LUN ☐ 2 Days

☐ DM 1 (250.01C) ☐ 2 Days

Mobility Needs

☐ Cane ☐ Crutch(es) ☐ Cam walker

☐ Walker ☐ Cast ☐ Wheelchair

☐ Splint ☐ Sling ☐ Brace

Other Needs / Restrictions

Modified Rx - Applies to Work and Home

From: 8/17/2012 8 Day(s) Seditary

Through: 8/24/2012 ☐ Permanent Restrictions ☐ Light ☐ Light-Medium ☐ Medium

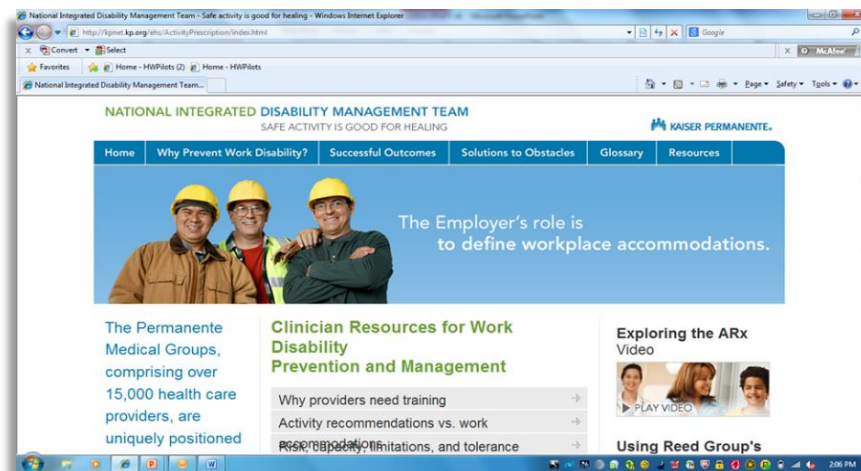
Lift/Carry/Push/Pull

Pounds: 10 Min/Hr: Limit work to: hours/ workday

Hours of Work Per Day

Modified Activities Copy Previous Restrictions Clear Restrictions

Activity	Frequency	Min/Hr	Hr/Day	Day/Wk
Stand	Occasionally (up)			
Walk	Occasionally (up)			
Sit				
Drive				
Bend at the waist	Occasionally (up)			
Torso/spine twist	Not at all			
Squat/kneel, knee bending				
Climb stairs				
Climb ladders	Not at all			
Use of scaffolds/work at height	Not at all			



MD training resources developed by Kaiser Permanente-IDM

HealthConnect Activity Rx Tool used to Document Disability

Activity Prescription Form (ARx): Kaiser Permanente's Electronic Disability Documentation and Communication Tool

Work/Activity Status 2 for Xnccaxactxiii,Aak Ww on 3/3/2015

Authorizing Provider: ● Current User: OAKMD, OAKTHREE O

Review/SnapShot

Medications

Flowsheets

Synopsis

Problem List

History

Letters

Demographics

PROMPT / PHP

eConsult

Order Entry

Immunizations

Doc Flowsheets

Work/Activity St...

Forms

New Secure Msg

FYI

Visit Navigator

CS Alerts

Visit Information

Work

School

Caregiver

PE Class, Sports or Exercise

Jury Duty

FMLA

Reportable Diseases

DMV Reports

Other

Go to Preview, Print, & Sign

Clear Data

Inactive buttons are not available. They will be in a future release.

Off Work Rx

From 3/3/2015 2 Day(s)

Through 3/4/2015 ☐ AM Only ☐ PM Only

Reason Significant Risk of Fall

Disability Duration Guide MMN Off: 2 Days

Enc Dx - Select max of 4 F/U Dx? MMN Off

☒ LUMBAR MUSCLE STRAIN ☐ 2 Days

☐ LEFT CARPAL TUNNEL SYN ☐ Multiple

Mobility Needs

☐ Cane ☐ Crutch(es) ☐ Cam walker

☐ Walker ☐ Cast ☐ Wheelchair

☐ Splint ☐ Sling ☐ Brace

Other Needs / Restrictions

Modified Rx - Applies to Work and Home

From 3/5/2015 8 Day(s)

Through 3/12/2015

☐ Permanent Restrictions

Sedentary

Light

Light-Medium

Medium

Lift/Carry/Push/Pull

Pounds: 20 Min/Hr:

Modified Activities Copy Pre

Stand	In
Walk	In
Sit	
Drive	
Bend at the waist	C
Torso/spine twist	C
Squat/kneel, knee bending	
Climb stairs	
Climb ladders	M
Use of scaffolds/work at height	M
Neck motions	
Reach above right shoulder	
Reach above left shoulder	
Keyboard/mouse use	
Repetitive right hand motions	
Repetitive left hand motions	
Gripping/grasping right hand	
Gripping/grasping left hand	

Full Work Duty

☒ Print full duty date: 3/13/2015

☐ Full work duty today

Hours of Work Per Day

hours/

Select MDGuidelines Topic

MDGuidelines

Click on a topic to view additional information:

[Muscle Injury](#)

[Sprains and Strains](#)

[Sprains and Strains, Back](#)

[Sprains and Strains, Lumbar Spine](#)

Cancel

IBI Annual Forum - February 17, 2016

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Activity Prescription Form (ARx): Kaiser Permanente's Electronic Disability Documentation and Communication Tool

The screenshot displays the Activity Prescription Form (ARx) interface. The main window is titled "Work/Activity Status 2 for Xnccaxactxiii, Aak Ww on 3/3/2015". It features a sidebar with navigation options: Review/SnapShot, Medications, Flowsheets, Synopsis, Problem List, History, Letters, Demographics, PROMPT / PHP, eConsult, Order Entry, Immunizations, Doc Flowsheets, Work/Activity St..., Forms, New Secure Msg, FYI, Visit Navigator, and CS Alerts. The main content area is divided into several sections: Visit Information (Work, School, Caregiver, PE Class, Sports or Exercise, Jury Duty, FMLA, Reportable Diseases, DMV Reports, Other), Off Work Rx (From: 3/3/2015, Through: 3/4/2015, Reason: Significant Risk of Fall, Disability Duration Guide: MMN Off: 2 Days, Enc Dx - Select max of 4: LUMBAR MUSCLE STRAIN, LEFT CARPAL TUNNEL SYN, Mobility Needs: Cane, Walker, Splint, Crutch(es), Cast, Sling, Can waker, Wheelchair, Brace), Modified Rx - Applies to Work and Home (From: 3/5/2015, Through: 3/12/2015, Sedentary, Light, Light-Medium, Medium), Full Work Duty (Print full duty date: 3/13/2015, Full work duty today), Lift/Carry/Push/Pull (Pounds: 20, Min/Hr:), Hours of Work Per Day, and Modified Activities (Copy Pre, Activity: Sit, Drive, Bend at the waist, Torso/spine twist, Squat/kneel, knee bending, Climb stairs, Climb ladders, Use of scaffolds/work at height, Neck motions, Reach above right shoulder, Reach above left shoulder, Keyboard/mouse use, Repetitive right hand motions, Repetitive left hand motions, Gripping/grasping right hand, Gripping/grasping left hand). A pop-up window titled "Select MDGuidelines Topic" is open, showing a list of topics: Muscle Injury, Sprains and Strains, Sprains and Strains, Back, and Sprains and Strains, Lumbar Spine. The text "ARx Demo" is overlaid on the center of the screen.

ARx Demo



Kaiser Permanente's ARx Represents Groundbreaking Use of Disability Guidelines

Kaiser Permanente's launch of ARx with embedded MDGuidelines was the healthcare industry's first large-scale, EHR-based integration of disability duration tables delivered at the point of care.



Managing the Disability Program Across Regions

- Each Kaiser Permanente region has an IDM Physician Advisor who supports local personnel in addressing disability management, oversees disability management education, and coordinates implementation of ARx/MDGuidelines.
- Bi-monthly meetings occur with all regional IDM Physician Advisors to share best practices and address disability management issues.
- The team tracks key metrics associated with the disability management program:

	Initiation	Implementation	Usage	Generation and Analysis	Education	
Region	Garner senior-level support to move forward on possible DDG/ARx implementation.	Implement DDG/ARx application into Health Connect platform.	Roll-out application for use by all departments/MDs.	Post implementation, generate and analyze data.	Provide training and education for current DDG/ARx end-users to ensure appropriate and accurate use.	Overall Summary
Northern California	● 4	● 4	● 4	● 3	● 3	● 3.6

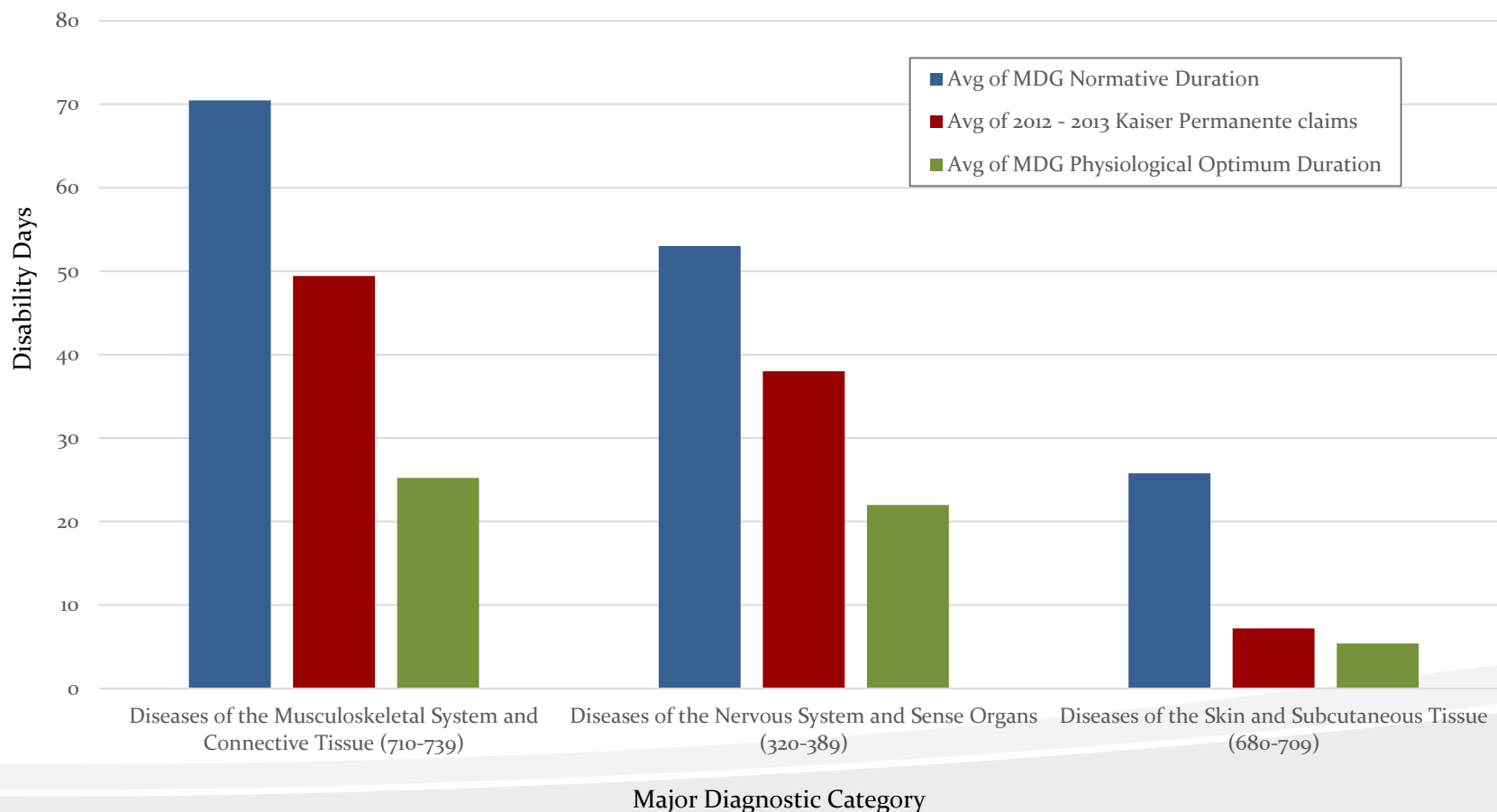


Measuring Performance



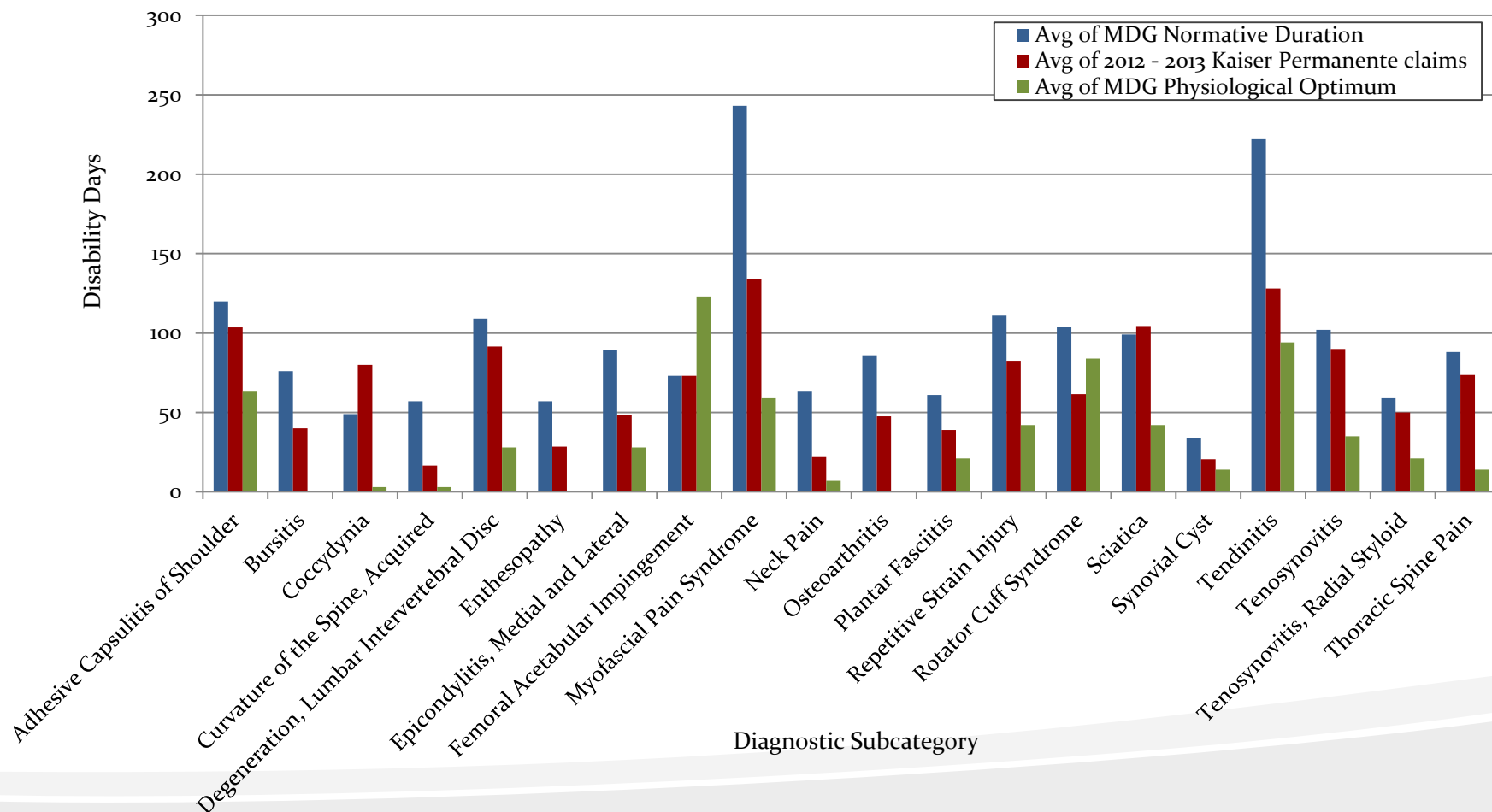
Benchmark to MDGuidelines Normative and Optimum Durations (Select Diagnostic Categories)

Kaiser Permanente NCAL Occupational Health Cases





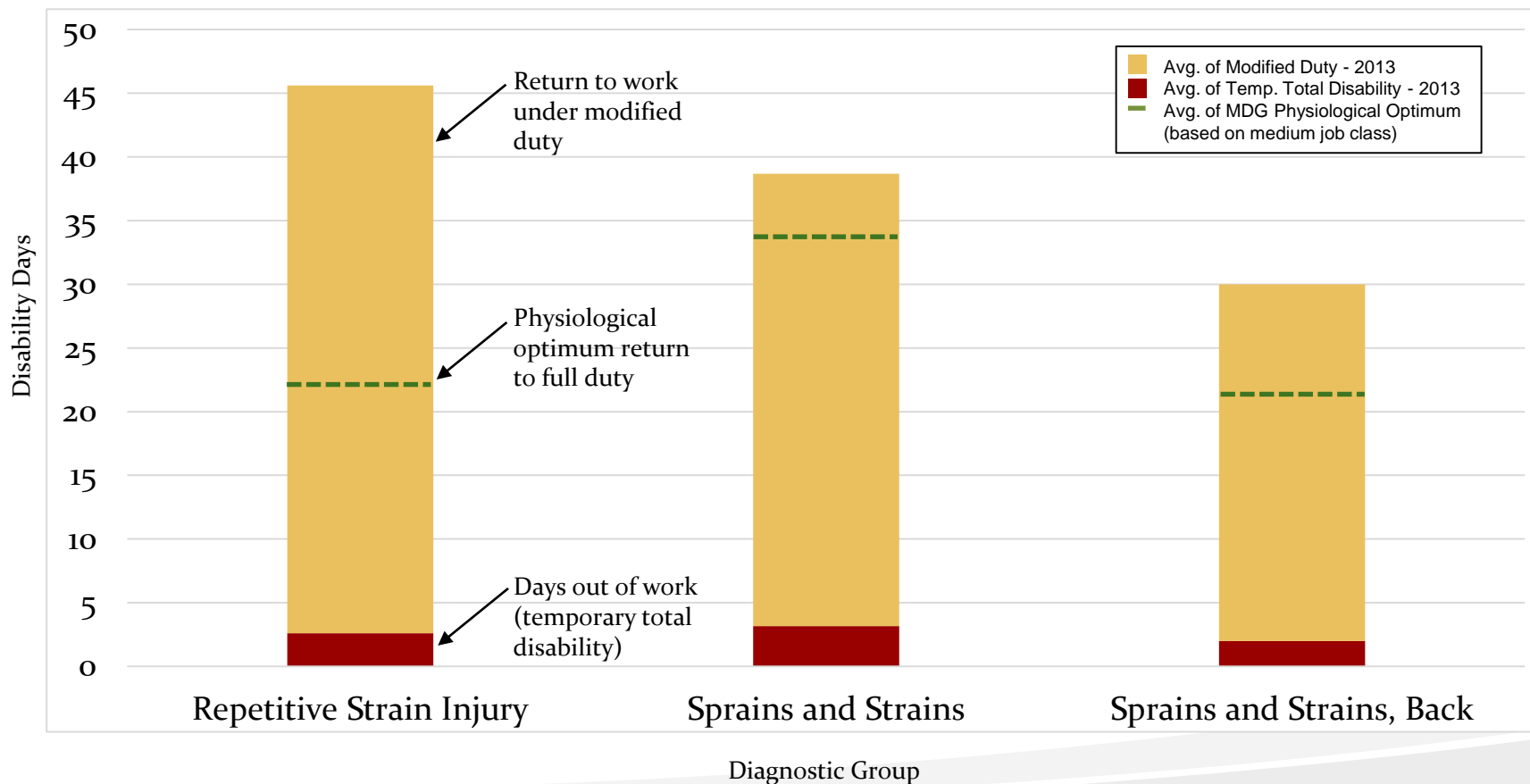
Benchmark at the Subcategory Level (Category *Diseases of the Musculoskeletal System*)





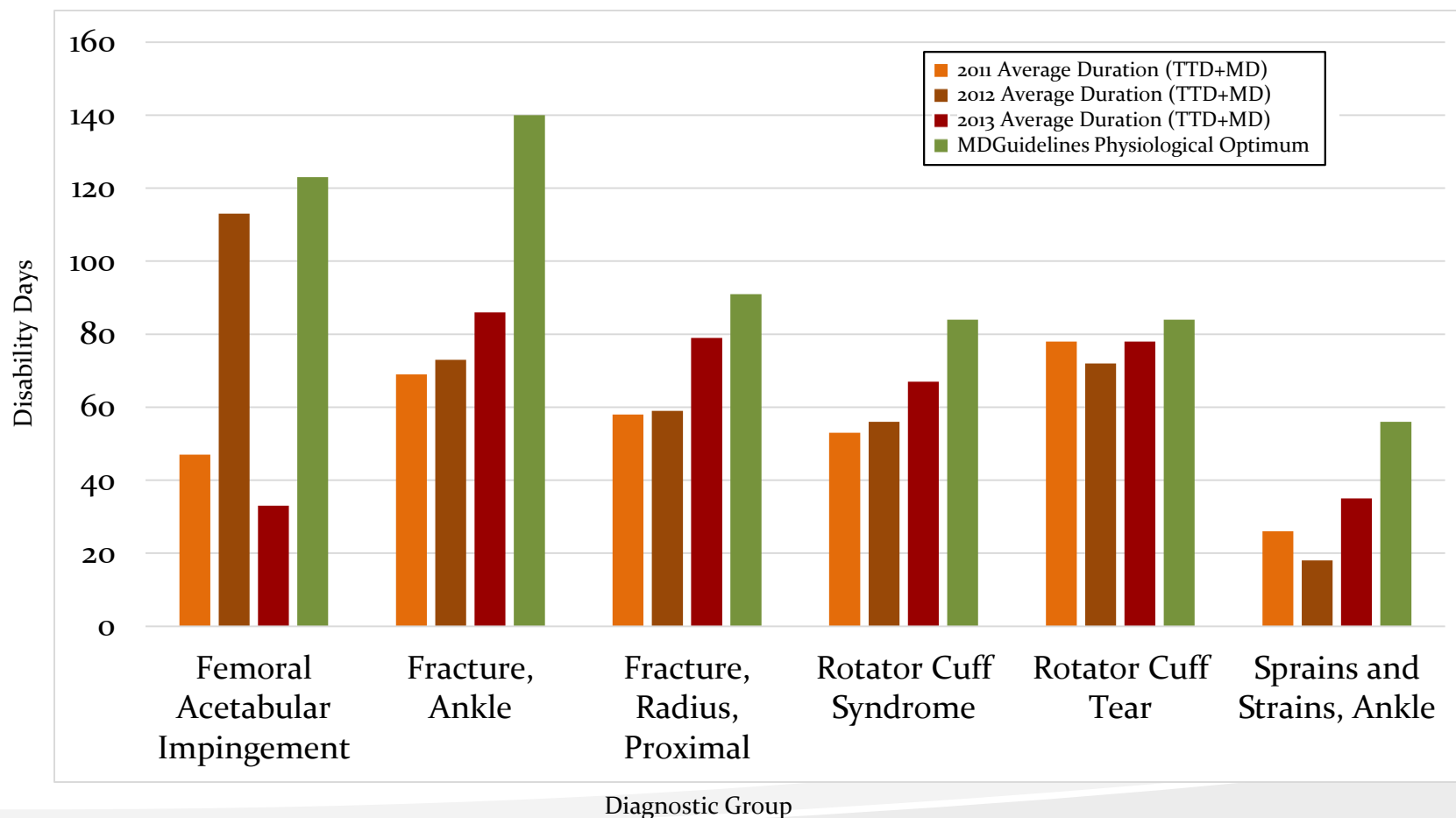
Top Five Diagnostic Groups With Largest Variance from Clinical Optimum

2013 Breakdown of Temporary Total Disability (TTD) vs Modified Duty (MD)





Diagnostic Groups Where Kaiser Permanente is Exceeding Clinical Optimum (2011-2013)





Key Findings

- Kaiser Permanente's durations were typically *lower* than MDGuidelines' normative data set (5M+ cases of observed data).
- On average (2012-2013), Kaiser Permanente NCAL Occ Health outperformed the MDGuidelines normative data set by **350,121 days** per year (**\$30 million** value).
 - An incremental **12,349 days** per year (approximately **\$1.05 million**) could be saved if all modified duty cases returned to full duty within the normative duration.
 - Areas of opportunity include: knee, foot, hand and arm injuries as well as hernia and depression (ICDs 296.2, 550.9, 553.1, 813.05, 815, 824.8, 825.2, 825.25, 836, 836.1, 836.6, 844.2)

Cost estimates are based on 75% of IBI's projection of \$114/day for Wages, Benefits and Lost Productivity for modified duty work days. These cost estimates are based on IBI's Full Cost Estimator tool using input values to reflect California wage and employment values from the Bureau of Labor Statistics May 2014 and California as the reference state for workers' compensation costs. Estimates do not include reduced healthcare utilization costs.



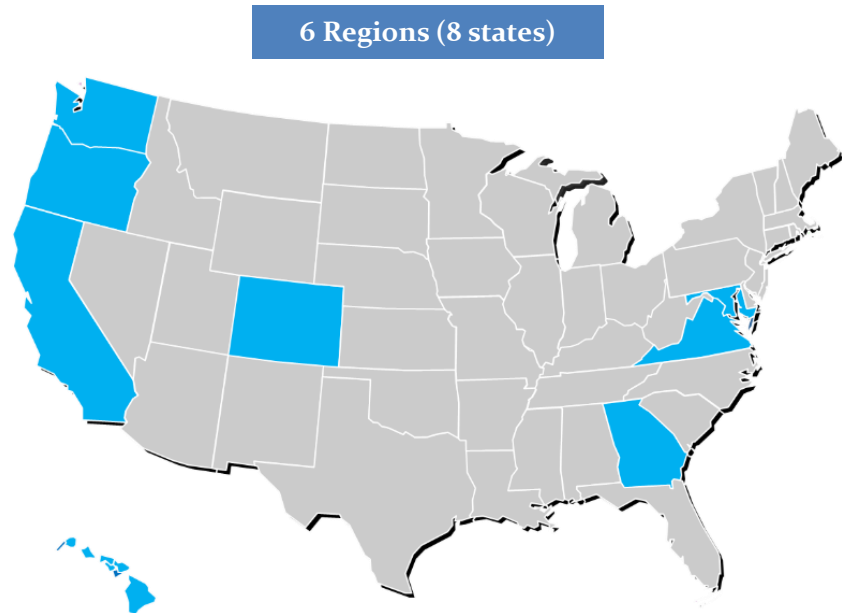
How Guidelines fit into to Kaiser Permanente's Vision and Strategy

Kaiser Permanente Overview

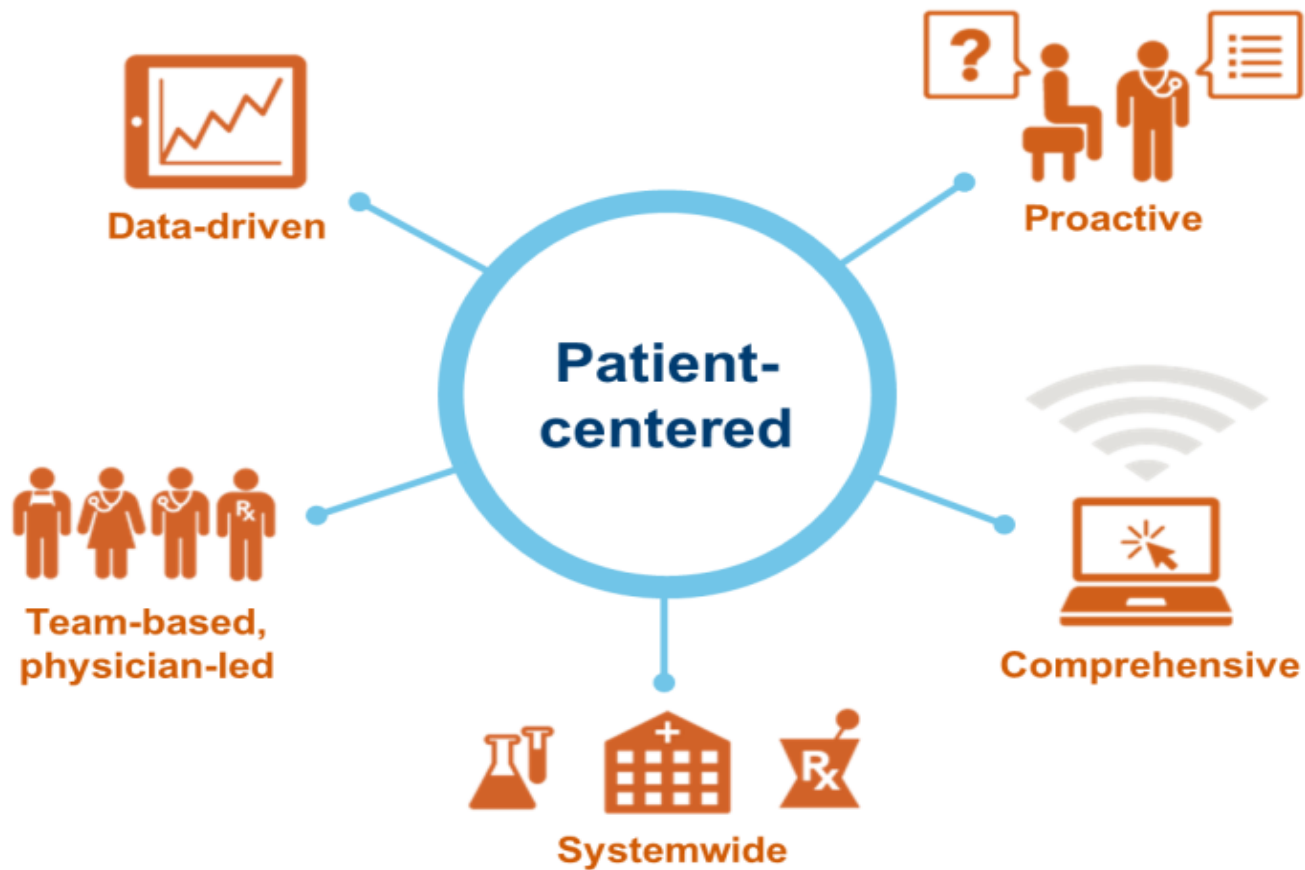
Founded in 1945, Kaiser Permanente is one of the nation's largest not-for-profit health plans, with 177,445 employees serving 10.1 million members.

Kaiser Permanente is made up of three separate, but closely cooperating, organizations: ***Kaiser Foundation Hospitals, Kaiser Foundation Health Plan, Permanente Medical Groups***

- 38 Hospitals
- 619 Medical Offices
- 17,791 MDs
- 49,778 RNs



Integrated Approach to Care Delivery



Kaiser Permanente's Value Proposition

*Deliver on the promise of **integrated healthcare delivery & active productivity management**, by aligning products & services that improve workforce health & productivity along the full spectrum of well-being and intervention.*

- Less fragmentation = less cost, better clinical outcomes, earlier RTW

- Program elements integrated and complimentary = synergized and compounded impacts to workforce health

- Less administrative cost for employers

- Kaiser Permanente Integrated Care Delivery System provides members best health and wellness



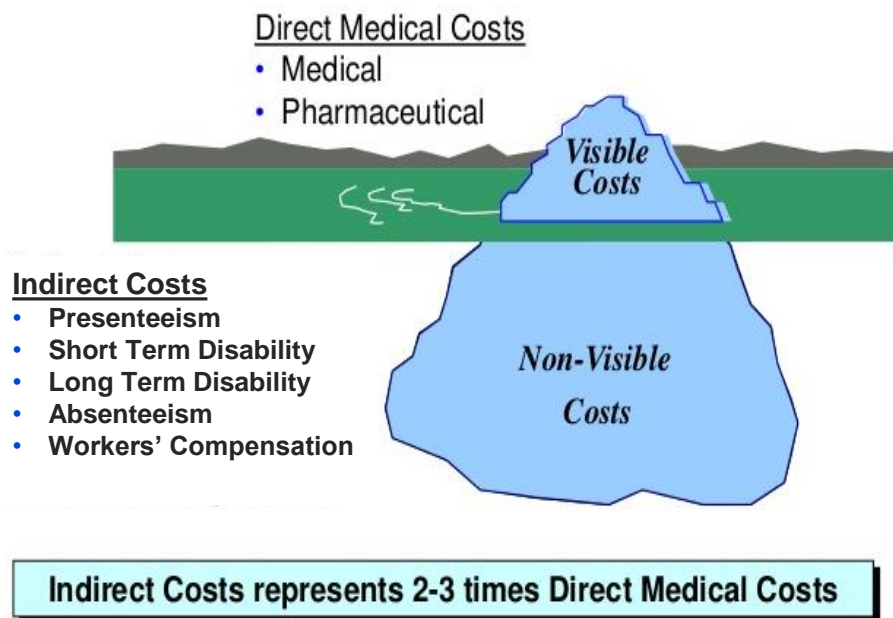
Integration of service and program component data provides a unique opportunity to measure and report on the impact on total workforce health and productivity.

Kaiser Permanente's "Total Workforce Health" Vision as part of the Strategic Customer Engagement

NODM Strategy

Kaiser Permanente will improve member satisfaction and support our commercial health plan customers by reducing the duration & total cost of employee disability through efficient administrative processes, responsive and best-in-class clinical tools, reporting, & analysis.

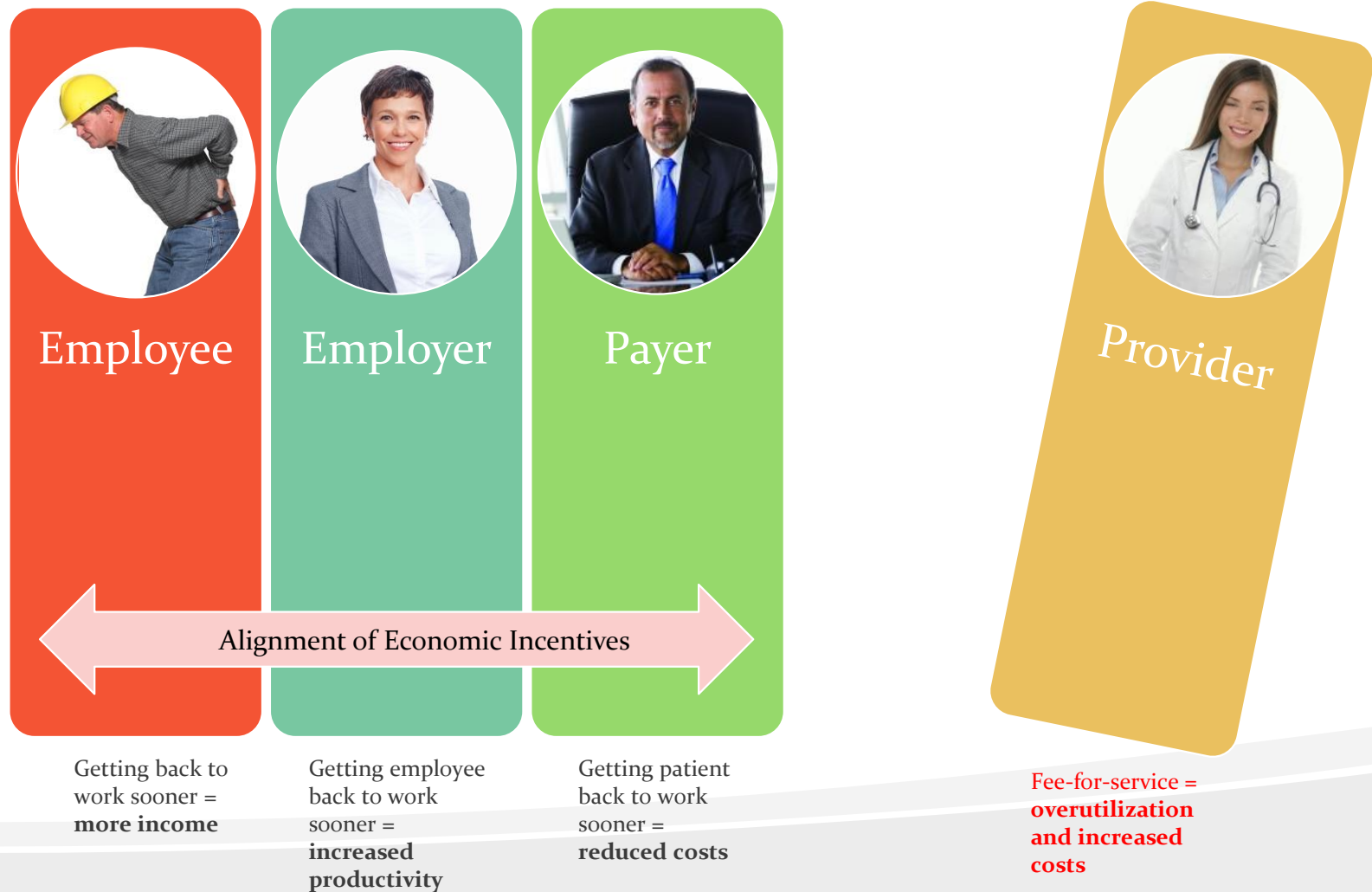
Direct vs. Indirect Costs



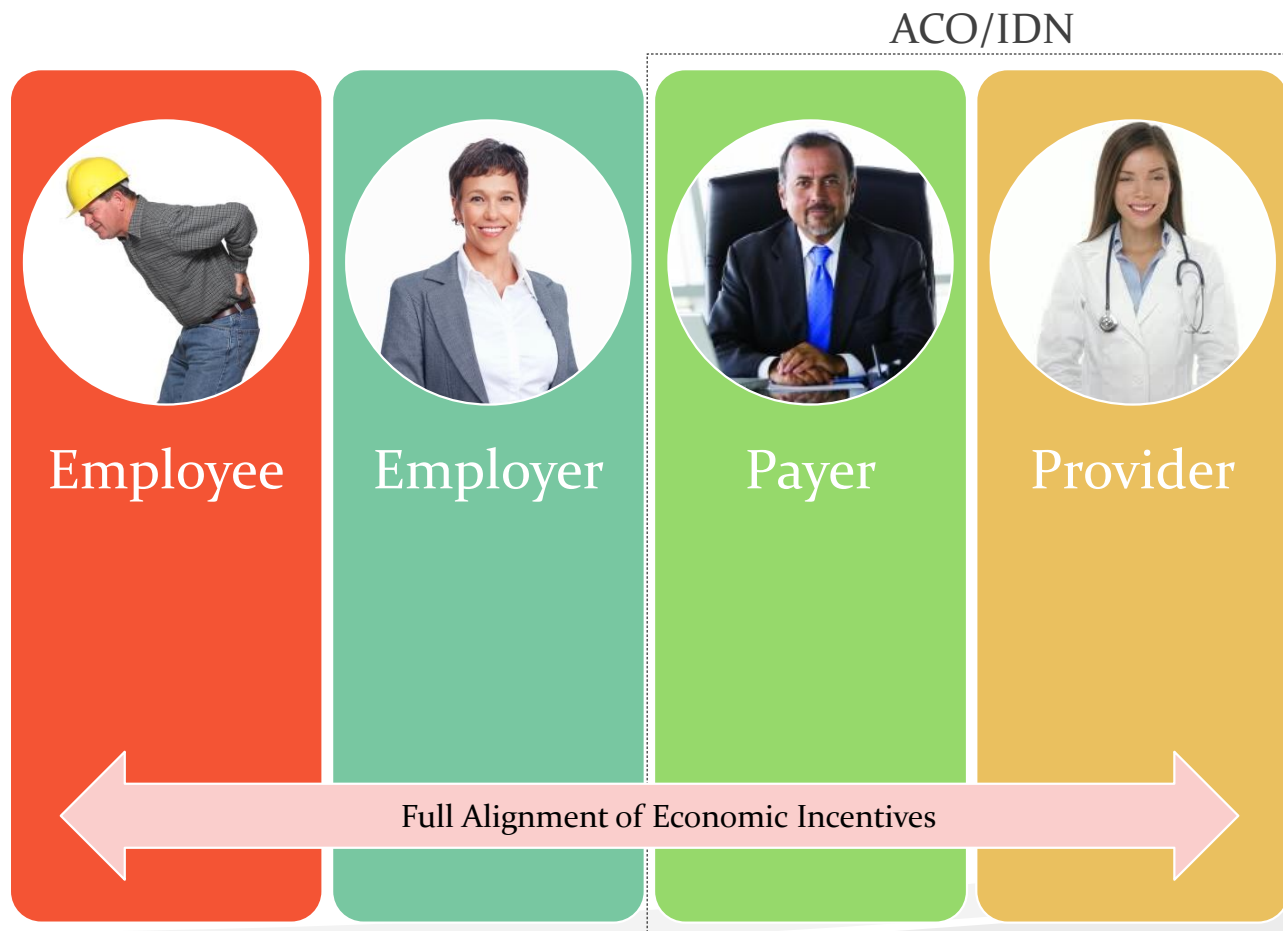


Applying Learnings from Occupational Health to Population Health

Healthcare Market Dynamics (Pre-ACA)



Healthcare Market Dynamics (Today)





Healthcare Market Dynamics

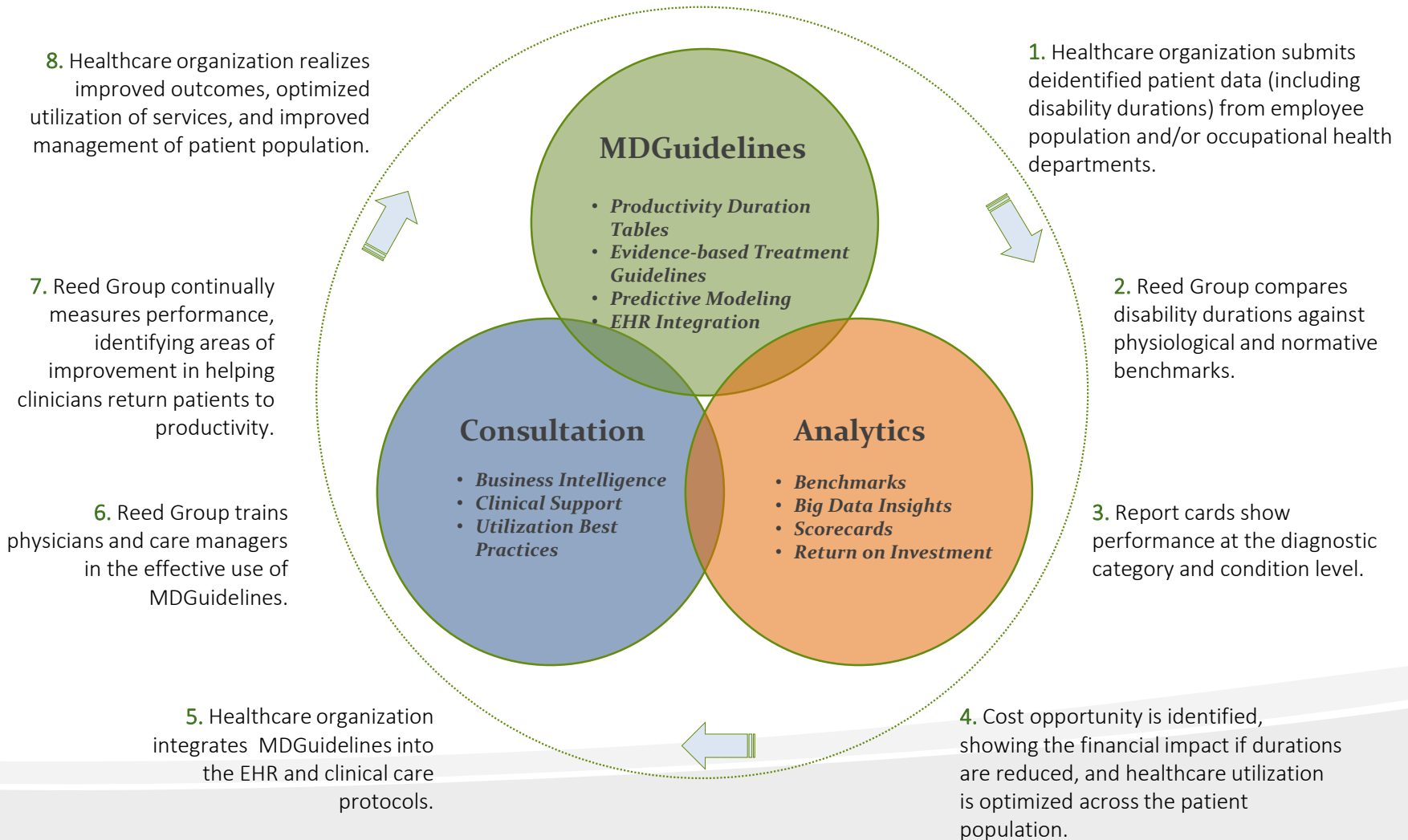
- **Payment Reform:** Hospitals are rapidly shifting away from fee-for-service payment models, toward value-based care models (aka pay-for-performance model or bundled payments)
- **Rapid Rise of ACOs*:** Emergence of ACOs giving rise to incentivized “population health management”:
 - Accountable Care Act has spurred ACO growth (23.5M lives are now covered under ACOs)
 - ACO registrations have quadrupled since 2013
 - 85% of hospitals have ACOs or are in the ACO-planning stage
 - 136 Payers have entered into ACO contracts. The Top 5 Insurers (Aetna, BCBSA, Cigna, Humana and United Healthcare) hold more than 2,000 ACO contracts.
 - Provider / Payer partnerships = shared risk (46% partner with private insurers; 40% partner with Medicare/Medicaid)
- **Big Data and Analytics**:** Hospitals increasingly using analytics and data-driven measurements to control costs and minimize risk. Focus is on large pools of data that help guide decision making.

** Robert Wood Johnson Foundation, “Health Insurers and the Accountable Care Movement” May 2015*

** The Healthcare Blog 2014-01-19, “The Great ACO Debate”*

*** Forbes . 2015-04-21, “How Big Data is Changing Healthcare”*

MDGuidelines – Total Health and Productivity





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