

The Proof is in the Data:

Applying Predictive Analytics to Reduce
Workers' Compensation Risk

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What does predictive modeling mean to you?



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Simply put.....



“Early intervention is the next best thing to prevention.”



Ref: Lewis, Robert T. Esq. Using Data and Analytics in Workers' Compensation. 2008, 2016

Ref: Michelle Depres, PT, CEAS II, VP, National Product Leader, Align Networks

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Is this new?

- Could we capture the data?
- Did we know the claim drivers?
- Did we have the data or data fields?
- Were we mining the data?



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How has IT changed since 2001?



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Processors & Memory

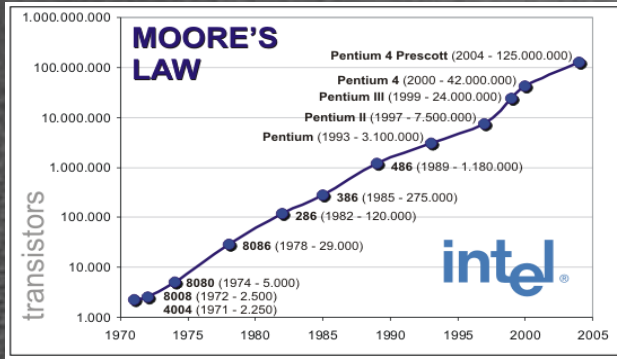


Image by Intel

Processors (CPUs) are now as fast as physically possible

The focus is now power-efficiency for IoT, and cramming in more processors for higher performance

More memory → more power



Images by Apple



Powerbook G4 (2001)

128 MB RAM

Macbook Pro (2017)

32 GB RAM

Memory increase

24,800%

Ref: JB Knowledge, Technology Solutions for Construction and Insurance. 2016

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Faster, Bigger, Cheaper Storage



Images by DPreview, Samsung

Think! HDD (2001)
60 GB, 23 mb/s
\$659

Samsung EVO (2016)
500 GB, 540 mb/s
\$149.99

Size increase

733%

Speed increase

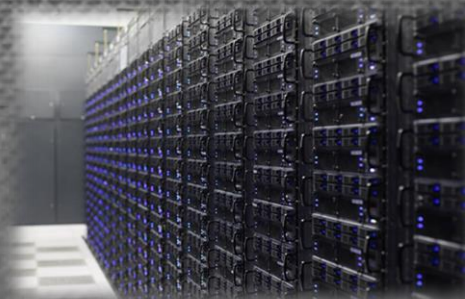
2248%

Cost decrease

77%



On-prem,
enormous capital
investment
(2001)



Images by momomomo, Rackspace

Cloud, pay for
what you use,
anyone can
afford (2016)

Ref: JB Knowledge, Technology Solutions for Construction and Insurance. 2016

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Mobile Technology



Ericsson T68 (2001)
First color phone



Image by PngImg,
Web Designer Depot

**Mobile use has
surpassed desktop
use (2016)**

(SmartInsights, Mobile Marketing Statistics compilation)

Ref: JB Knowledge, Technology Solutions for Construction and Insurance. 2016

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Composition of Today's Workforce



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Mega Trends: Co-Morbidities



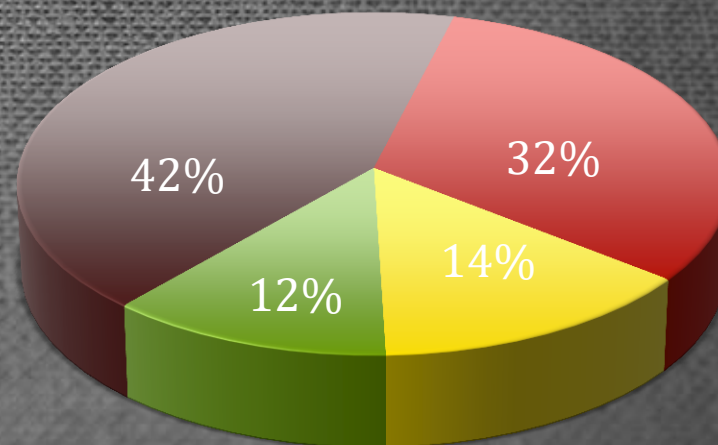
- 90% IW seen in outpatient P.T.:
 - At least 1 medical co-morbidity
 - 60% have 2+ co-morbidities
- 55+ group: presence of co-morbidities higher
- Directly influence:
 - medical
 - therapy care
 - outcomes
- Osteoporosis is one additional co-morbidity in older workers

Clinically, address modifications of:

- exercise prescription
- goals
- treatment plan

Co-Morbidities

- Obesity
- Advanced Age
- Metabolic Disorder



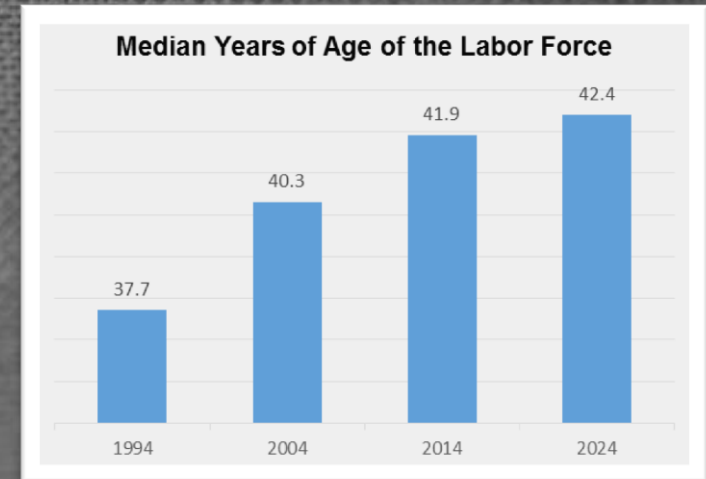
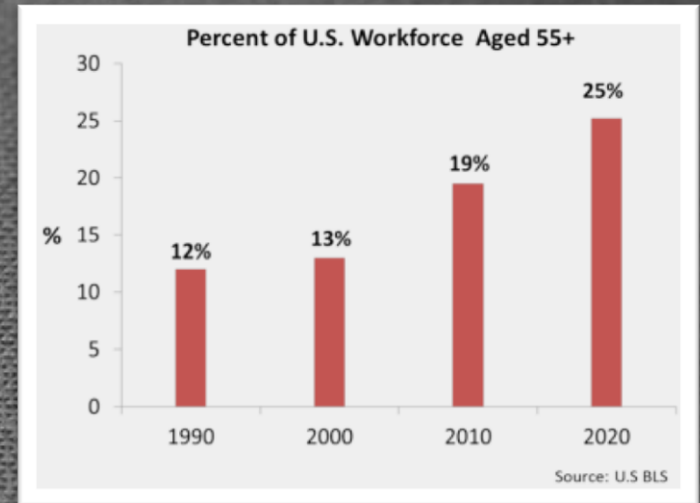
Ref: Industrial Medicine and Acute Musculoskeletal Rehabilitation: Acute Musculoskeletal Injuries in Aging Workforce, 2007

Ref: Michelle Depres, PT, CEAS II, VP, National Product Leader, Align Networks

Aging Workforce: Trends



- Strength declines over time due to age
- Co-morbidities: HBP, obesity, type II diabetes
- Wealth of benefits:
 - Ethic of personal responsibility
 - Can-do attitude
 - Experience
 - Knowledge
 - Loyalty
- Administration on Aging reports:
 - Older population (65+) = 40 Million in 2009 (12% of the U.S. population)
 - 2020, expected to grow to 72 Million (25% of our population)



Ref: U.S. Bureau of Labor Statistics, 2015

Ref: The Gray Shift Part 1: An Aging Workforce Creates New Workplace Injury Issues, 9/25/2013

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Aging Workforce: Injuries



- **Body parts:**
 - **Ankles, Wrists, Arms, Hips**
- **Injury Types:**
 - **Fractures, strain, sprain, soft tissue injuries**
- **Women more likely than men to sustain fractures of wrists, forearms**
- **Higher incidence of multiple injuries, co-morbidities**
- **Sprains, strains, joint dislocation, carpal tunnel syndrome, tendonitis**

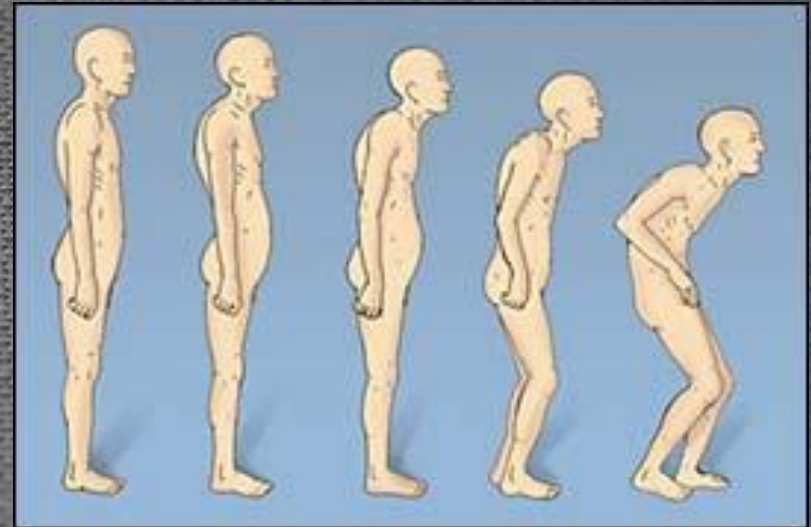


Ref: U.S. and state government researchers (CDC, BLS and several state agencies) 2009

Age Related Changes



- **Primary areas of concerns:**
 - **Bones & Joints**
 - **Eyes**
 - **Vascular Changes**
 - **Dehydration**
 - **Functional Abilities**



Ref: National Institute of Health

MedlinePlus: Winter 2007 Issue: Volume 2 Number 1 Pages 10 - 13

Aging Workforce: Sarcopenia



- 4th vital sign (Dr. Turpelek, Cleveland Clinic)
- From Greek language, meaning “poverty of flesh”
- Age related loss in muscle size and strength
- Decrease in lean muscle mass often accompanied by increase in fat
 - body weight may remain unchanged

•Loss of strength due to loss of 30% of muscle mass from age 30 to 65, by age 80, loss of 50% of muscle mass

•Contributes to loss of functionality

•Can be reversed with physical activity/strength training



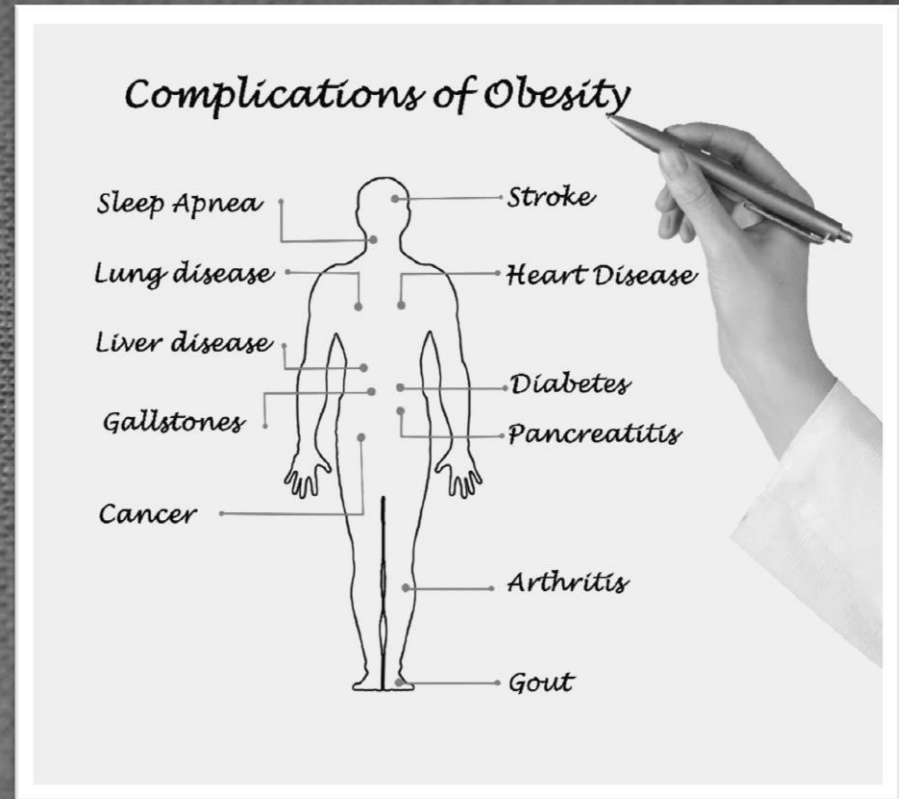
Ref: Industrial Medicine and Acute Musculoskeletal Rehabilitation:
Acute Musculoskeletal Injuries in Aging Workforce, 2007

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Co-Morbidities: Obesity



- 80% of type II diabetes related to obesity
- 70% of Cardiovascular disease related to obesity
- 42% breast and colon cancer diagnosed among obese individuals
- 26% of obese people having high blood pressure
- 30% of gallbladder surgery related to obesity
- More pressure on weight bearing joints: higher incidence of arthritis
- Decrease in cardiovascular endurance



Ref: Mann GV. The Influence of Obesity on Health. N Engl J Med. 1974;291:178-185

Predictors of Worker Outcomes (WCRI)



- **EDUCATION**
 - Not working: No HS diploma = 20% vs College degree = 11%
 - 56% of injured workers had no education beyond high school
 - 15% of injured workers have college degrees
- **CO-MORBIDITIES**
 - Not working: 54% have co-morbid conditions (HTN, Diabetes, Heart Conditions)
 - Not working: 13% have no co-morbidities
- **ENGLISH LANGUAGE PROFICIENCY**
 - Interviewed in Spanish: difficulty navigating health care system
 - 20% “very dissatisfied” with care
 - 26% “big problems” getting desired care
- **FEAR OF BEING FIRED**
 - 27% with fear have worse outcomes
 - Worse outcomes include: less recovery of physical health, more not working, longer disability duration, earning less, “big problems” getting desired care, & higher level of dissatisfaction with care

Source: WCRI Predictor of Worker Outcomes webinar 10/16/2014

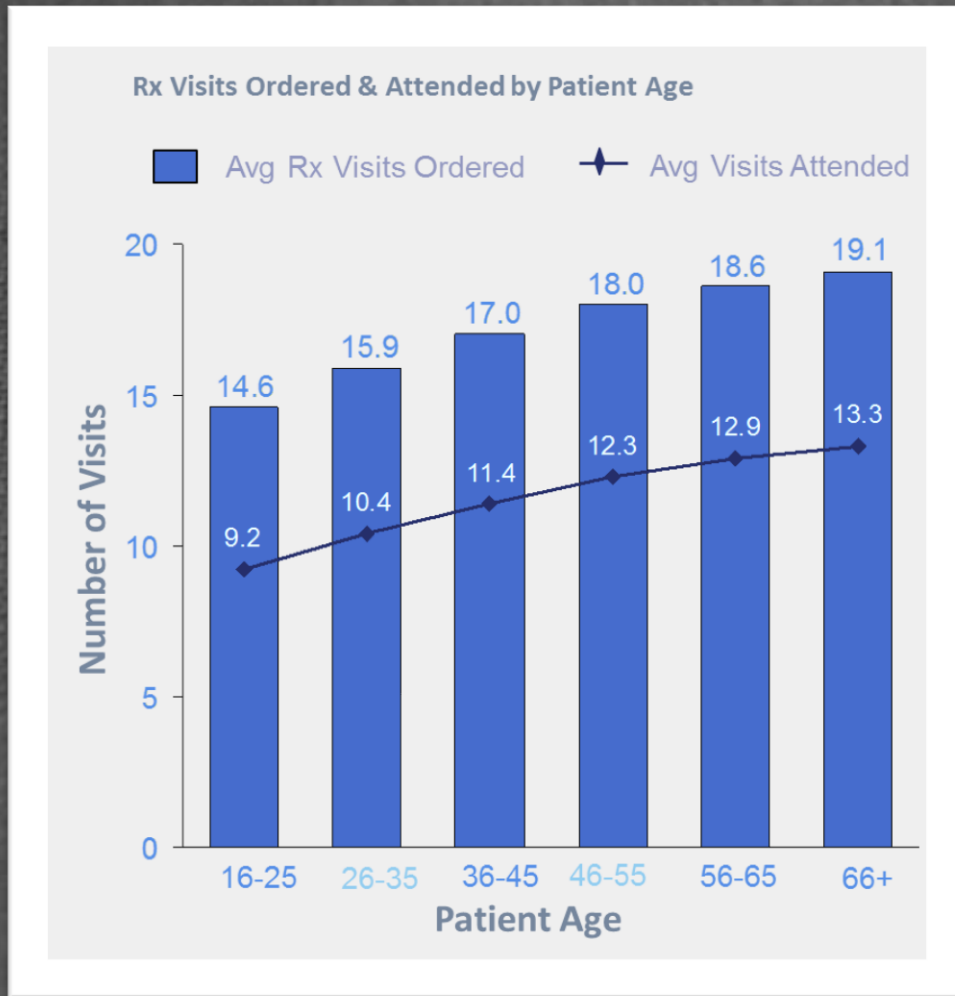
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The Impact

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Drivers of Utilization (Aging)



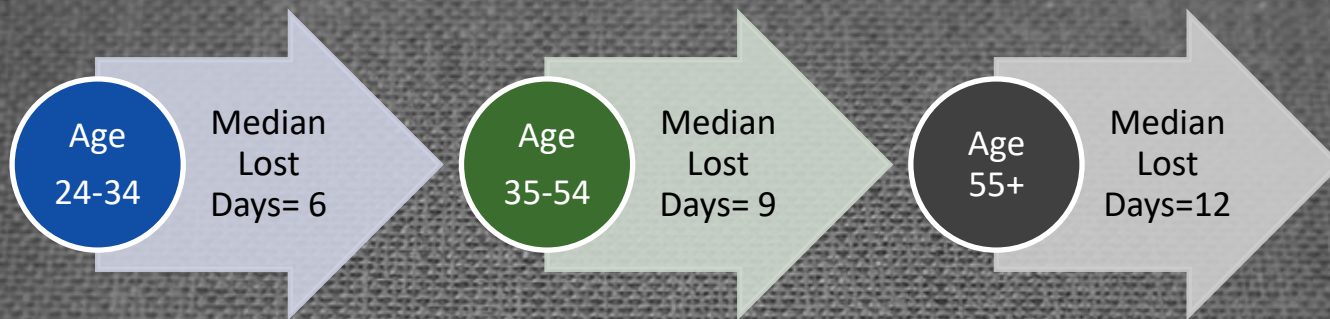
Ref: Align Networks Data, Prospective Referrals with Applicable Guidelines ("Unknown" & "Other" injuries excluded), Client mix, 2013 Data

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Aging Workforce Recovery Trends



- Research indicates recovery times following injury are longer with this age group:



- Longer recovery times for older population
- Higher wages account for additional higher costs among older workers (indemnity)
- Extended Physical Therapy durations, above recommended clinical guidelines for a condition, may need additional therapy visits to address slow healing, additional physical deficits, balance, mobility, strength, co-morbidities and other complications

Ref: U.S. and state government researchers (CDC, BLS and several state agencies) 2009-2013

Ref: National Institute for Occupational Safety and Health, Morbidity & Mortality Weekly Report

Obesity Costs



- Obesity Today: \$200 billion a year (>10% of healthcare costs)
- Morbidly Obese (BMI 40+)
 - 45% higher claim volume
 - 8x more missed work days
 - 5x higher medical costs
 - 8x greater indemnity costs



Ref: Cawley, Meyerhoefer. The Medical Care Costs of Obesity: An Instrumental Variables Approach.

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Claim Influence



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High Potential Exposure Claims



- Small percentage of claims = disproportionately high costs
- Not just the “big” cases (lumbar fusion) that turn costly
- Includes those that seem innocent at first but analytics help flag
- Extended medical treatment
 - Diagnostic tests
 - Physical therapy
 - Pharmaceutical products
 - Indemnity
 - Surgery
 - Permanent Disability



Ref: Milliman. A More Efficient Process for Worker's Compensation Claim Analytics.
10-2012

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Data Drives Outcomes



- Many data points are captured but is this info then utilized?
- What data can be collected?
- Many intervention options
- Early identification and action are key



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What injuries cost you the most?



- Surgical shoulder + age
- Surgical knee + age
- Diabetes, osteoarthritis, metabolic syndrome
- Obesity
- Smoking



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Predictive Modeling Reduces WC Costs



- According to a Towers Watson survey in 2011:
 - 5% reduction (Liberty Mutual Vantage Comp)
 - 15% reduction (Aon's Early Claim Intervention model from *Business Insurance* magazine)
 - 4-8% reduction in annual loss and expense ratios (Deloitte Consulting article in *Insurance & Technology*)
- Sedgwick: avg. incurred costs decreased 6-8% (2014)
- CCMSI: 5-10% reduction (2016)

Ref: Lewis, Robert T. Esq. Using Data and Analytics in Workers' Compensation. 2008, 2016

Ref: Sedgwick.com. 2016

Ref: Brechtel, Skip. CCMSI. 2016

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Let's Look at a Successful Program

The science behind the crystal ball.

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GENERAL INFORMATION



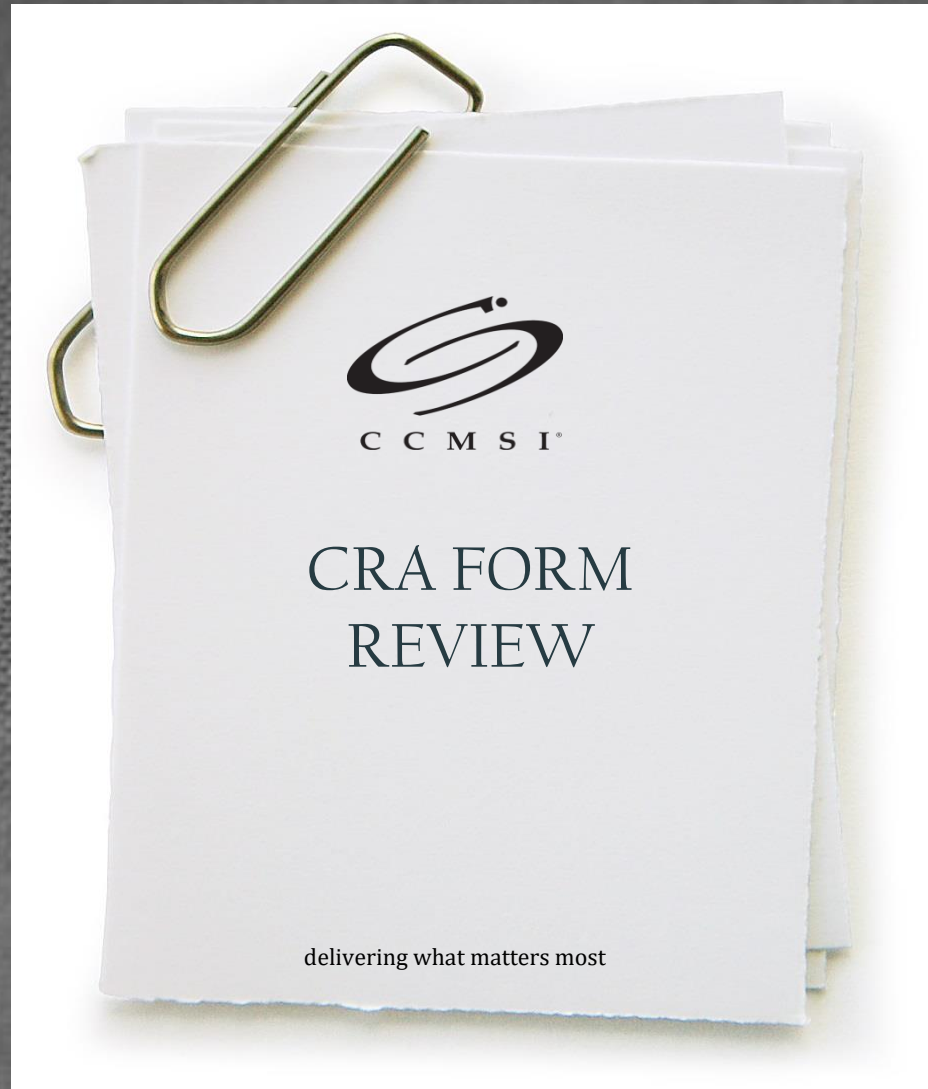
- **Developed by CCMSI management team based on extensive data review of ten year closed claim and pilot study of two large national accounts**
- **The CRA module is integrated in our indemnity claims best practices and completed within the 10 - 15 days of receipt of the indemnity claim**
- **Currently the CRA is a static form developed by CCMSI Corporate Claims Committee that does not allow for any form changes**
- **Future development will be based on industry trends and include additions or deletions of specific questions to the CRA**
- **CRA form is built into our adjuster recorded statement process for indemnity claims and major medical only claims where adjuster/supervisor is concerned because of key claim factors**

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CRA – Key Injury/Data Sections Captured During Recorded Statements



- **Basic background information (6 questions for profile scoring)**
- **Accident /injury information (3 questions for profile scoring)**
- **Employer history information (6 questions for profile scoring)**
- **Health history/life style information (13 questions for profile scoring)**
- **Injury history information (4 questions for profile scoring)**
- **Medical information (3 questions for profile scoring)**



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CRA Form – pages 1 & 2



Claim Risk Assessment	
Basic/Background Information	
Claimant's Legal Last Name	
Claimant's Legal First Name	
Date Of Loss	
Claimant's Home Address	
Claimant's City State Zip	
Home Phone #	
Cell Phone #	
Social Security Number	
Medicare Eligibility	
Have you applied for Social Security Disability?	
When did you apply for Social Security benefits?	
Date Of Birth	
Age At Time Of Accident	
Current Age	
Marital Status	
Height:	
Feet	
Inches	
Weight	
BMI Score	
Do you have any children under 18 years old?	
Highest Level Of School Completed	
Do you believe you will return to work on a scale of 1 to 10 (10 being the highest to return)?	
Employer	
Date Of Hire	
Job Title	
Department	
Name of Supervisor	
Describe the specific duties you perform on a daily basis	
How far do you travel to work? (i.e. in minutes)	
How much do you make per hour?	
How many hours do you work per week?	
Are you employed anywhere else?	

Claim Risk Assessment	
Accident/Injury Information	
Where did the incident occur?	
Time Of Accident	
Accident Description	
Describe the effects of the injury (pain, stabbing, ache, pop, leg pain, buttocks)	
Is this a slip/trip/fall accident?	
Is this a back injury?	
Is this a repetitive trauma injury?	
What were you doing prior to the accident?	
What did you do immediately after the incident?	
When did you report the incident to your employer?	
Did you do so verbally or in writing?	
Who did you report it to?	
Last Day Worked	
Witnesses	
Witness Information	
ISO Index Score	
Reporting Lag Time	
Legal - Petitioner Attorney	
Slip/Trip/Fall	
Where exactly did you fall?	
Describe your fall	
Was there anything on the floor, ground or surface?	
Slippery/Slick?	
What kind of shoes were you wearing?	
What caused your fall?	
Were you carrying anything?	
If yes, what?	
How was the lighting in the area of the fall?	
Did anything contribute or cause you to fall?	
Injury History Information	
Any prior injuries to this body part in the past?	
Prior Surgeries To This Body Part	

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CRA Form – pages 1 & 2



A few questions included in the CRA form are:

Basic Background Information

- Medicare Eligibility
- Height
- Weight
- BMI Score
- Highest Level of School Completed
- Do you believe you will return to work on a scale of to 10 (10 being the highest to return)?
- How far do you travel to work? (i.e. in minutes)
- Are you employed anywhere else?

Accident/Injury Information

- Is this a repetitive trauma injury?
- Reporting Lag Time
- Legal – Petitioner Attorney

Injury History Information

- Any prior injuries to this body part in the past?
- Prior surgeries to this body part
- Any prior Worker's Compensation claims?

CRA Form – pages 3 & 4



	Claim Risk Assessment
Any prior Worker's Compensation claims?	Yes
Medical Information	
Who is your primary treating physician?	
What Medical Facility?	
Diagnosis	
Tests	
Any Medications?	
First Appointment	
Recommended Treatment	
Last Appointment	
Current Treatment	
Next Appointment	
Has the doctor indicated when you will be able to return to work?	
Estimated Return To Work Date	
Have you returned to work since the date of incident?	
Light Duty or Regular Duty?	
What is the name of your personal physician/family doctor?	
Prior to this injury, when was the last time you saw a doctor?	
Last doctor visit was for what?	
Are you pregnant?	
How far do you travel to see your treating physician? (i.e. in minutes)	
Where do you rate your pain on a scale of 1-10 (10 being the highest)?	
Does the treating physician have a reputation for being pro-employee or prolonged treatment, poor outcomes, extended disability...?	
Health History/Life Style Information	
High Blood Pressure/Hypertension?	
Have you ever been treated for any illness such as depression, bi-polar, schizophrenia, etc. ?	
Diabetes?	
Thyroid?	
Arthritis?	
Cancer?	
Heart Problems?	

	Claim Risk Assessment
Stroke?	
Alcohol consumption?	
Tobacco use now or in the past?	
Do you have a working spouse?	
Do you regularly participate in aerobic, cardio, strength building or flexibility exercises?	
Do you regularly participate in any sports activity, clubs or hobbies?	
Any other health or life style concerns?	
Employer History Information	
How did the employer first learn of injury?	
Is claimant a good, marginal or poor employee?	
Rate the employees probability of returning to work (10 being most probable to return)	
Employer unable/unwilling to accommodate light duty or RTW?	
Does the employer question the compensability or the legitimacy of the facts as reported?	
Any anticipated layoffs, cutbacks or pending retirement?	
Any know conflicts with supervisor, management or co-workers?	
Does claimant have any known financial or legal issues?	
Compensability Information	
Is this claim compensable?	
Did the accident arise out of and in the course of employment?	
Does the medical support and is it consistent with the reported work injury?	
Does the employer concur with compensability decision?	
Has acceptance or denial of compensability been influenced by a special or unique jurisdictional law or statute?	

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CRA Form – pages 3 & 4



A few questions included in the CRA form are:

Medical Information

- How far do you travel to see your treating physician? (i.e. in minutes)
- Where do you rate your pain on a scale of 1-10 (10 being the highest)?

Health /Life Style Information

- High blood pressure/Hypertension?
- Have you ever been treated for any illness such as depression, bi-polar, schizophrenia, etc.?
- Diabetes?
- Thyroid?
- Arthritis?

Health /Life Style Information

- Cancer?
- Heart Problems?
- Stroke?
- Alcohol Consumption

Employer History Information

- Is claimant a good, marginal or poor employee?
- Rate the employees probability of returning to work (10 being the most probable to return)
- Employer unable/unwilling to accommodate light duty or RTW?
- Any anticipated layoffs, cutbacks or pending retirement?

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Rating a Claim & Exceptions



- **SCORING/RATING OF A CLAIM**
 - Red = High Risk Exposure Indicators
 - Yellow = Medium/Moderate Risk Exposure Indicators
 - Green = Low Risk Exposure Indicators
 - Scoring should be done by questions / area / overall claim
- **OVERALL RISK CLAIM PROFILE SCORING FOR A CLAIM**
 - Red / High Risk Exposure = 2 or more Red sections out of a total of sections
 - Yellow / Moderate Risk Exposure = Any other combination
 - Green / Low Risk Exposure = 0 Red sections and 4 or more green sections
- **EXCEPTIONS**
 - BMI >45 and 2+ positive hits in any section, denotes a red claim
 - Note: Supervisors to increase Overall Claim Score. A rationale must be entered. The score can only become more severe, it may not be reduced.

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Rating a Claim & Exceptions

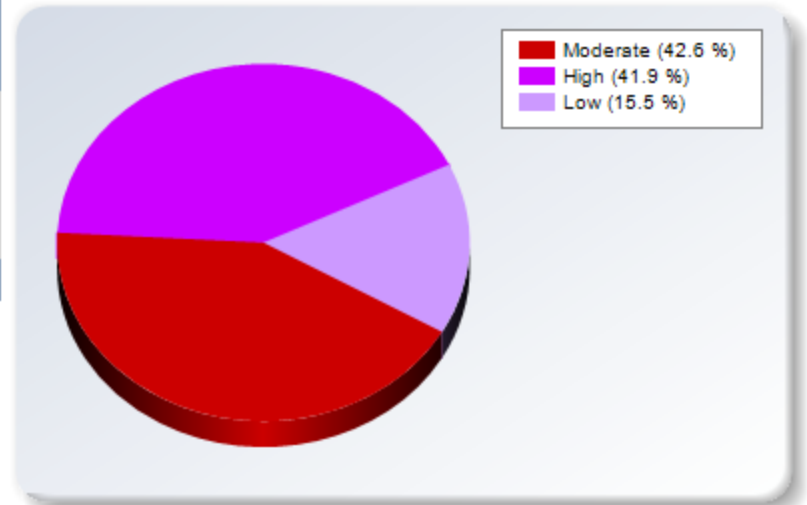


Graph Total Incurred for each Claim Risk Level
Order By Total Incurred Desc

Selection: Claims where Date Of Loss between 1/1/1900 and 12/31/2199 11:59 PM and Type of Claim is Indemnity As Of 10/3/2017 and Claim Status is Open As Of 10/3/2017 and Claim Risk is High Or Claim Risk is Moderate Or Claim Risk is Low

 **Export**

	Claim Risk Level	Paid	Out Reserve	Recovered	Total Incurred	Claim Count	Cost per Claim
 	Moderate	\$1,436,646.88	\$1,478,307.13	\$0.00	\$2,914,954.01	66	\$44,165.97
 	High	\$1,105,155.01	\$1,765,516.93	\$0.00	\$2,870,671.94	19	\$151,088.00
 	Low	\$506,986.32	\$556,186.92	\$0.00	\$1,063,173.24	35	\$30,376.38
	Totals:	\$3,048,788.21	\$3,800,010.98	\$0.00	\$6,848,799.19	120	\$57,073.33



CRA Initial Claim Note



RISK ASSESSMENT	Created: [REDACTED]	Last Modified: [REDACTED]
<p>updated clmt diagnosis of diabetes, discovered while in the hospital</p> <p>Claim Risk Assessment: High</p> <p>Accident/Injury Information</p> <ul style="list-style-type: none">* Describe the effects of the injury: pain - extreme* What were you doing prior to the accident? trying to step over to dozer to hand paperwork* What did you do immediately after the incident? tried to get up* When did you report to your employer? immediately <p>Injury History Information</p> <ul style="list-style-type: none">* Any prior injuries to this body part in the past? Yes* Prior Surgeries to this body part: No* Any prior Workers' Compensation claims? Yes <p>Medical Information</p> <ul style="list-style-type: none">* BMI: 56* Who is your primary treating physician? surgeon Dr. [REDACTED]* What Medical facility? [REDACTED] hospital* Diagnosis: fractured tibia L* Tests: [no response]* Any medications? yes* First appointment: still in the hospital* Recommended treatment: not wt bearing, referral to inpt rehab* Last appointment: still in hospital* Current treatment: transfer to rehab* Next appointment: TBD* Has the doctor indicated when you will be able to return to work? No* Estimated return to work date: [no response]* Have you returned to work since the date of the last incident? No* Light Duty or Regular Duty? Light Duty* What is the name of your personal physician/family doctor? Dr. [REDACTED]* Prior to this injury, when was the last time you saw a doctor? [REDACTED]* Last doctor visit was for what? sinus infection <p>Health History/Life Style Conditions</p> <ul style="list-style-type: none">* Diabetes* Alcohol Consumption* Tobacco use* Working Spouse* Regular sports activity		
Document: [REDACTED]	Date: [REDACTED]	



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Claim Risk Assessment –Sample Claim #1

Key CRA Information and Potential Cost Drivers



SAMPLE CLAIM #1	
Current Age	46
Marital Status	Married
Height:	
Feet	5
Inches	11
Weight	350
BMI Score	49
Do you have any children under the age of 18 years old?	True
Ages of Children	17
Highest Level of School Completed	High School Diploma or GED
Do you believe you will return to work on a scale of 10 to 10 (10 being the highest to return)	0
Employer	
Job Title	Custodian
How far do you travel to work? (i.e. in minutes)	25
Describe the effects of the injury (pain, stabbing, ache, pop, leg pain, buttocks)	Painful
Witnesses	No
Any injuries to this body part in the past?	No
Prior surgeries to this body part	No
Any prior Workers' Compensation claims?	Yes
Diagnosis	Fractured shoulder and dislocated
Tests	Xrays and Cat Scan
Have you returned to work since the date of incident?	False
How far do you travel to see your treating physician? (i.e., in minutes)	8
Where do you rate your pain on a scale of 1 – 10 (10 being the highest?)	1
High Blood Pressure/Hypertension?	Yes
Have you ever been treated for any illness such as depression, bi-polar, schizophrenia, etc.?	Yes
Diabetes?	Yes
Arthritis?	Yes
Heart Problems?	Yes
Tobacco use now or in the past?	Yes
Is claimant a good, marginal or poor employee?	Good
Rate the employee's probability of return to work (10 being most probable to return)	10
Employer unable/unwilling to accommodate light duty or RTW?	Yes

Claim Risk Assessment –Sample Claim #2

Key CRA Information and Potential Cost Drivers



SAMPLE CLAIM #2	
Current Age	35
Marital Status	Married
Height:	
Feet	5
Inches	11
Weight	304
BMI Score	42
Do you have any children under the age of 18 years old?	True
Ages of Children	4 children
Highest Level of School Completed	High School Diploma or GED
Do you believe you will return to work on a scale of 10 to 10 (10 being the highest to return)	8
Employer	
Job Title	Residential Driver
Describe the specific duties you perform on a daily basis	Driver gets in and out of the truck at every stop. He usually makes approximately 200-350 stops per day.
How far do you travel to work? (i.e. in minutes)	25
Describe the effects of the injury (pain, stabbing, ache, pop, leg pain, buttocks)	Injured right shoulder and felt severe pain.
Last Day Worked	5/6/2015
ISO Index Score	556
Any Medications?	Hydrocodone and ibuprofen
Last Appointment	11/24/2015
Current Treatment	Repeat MRI requested on 11/24/15.
Prior to this injury, when was the last time you saw a doctor?	A long time ago.
Where do you rate your pain on a scale of 1 – 10 (10 being the highest)?	6
High Blood Pressure / Hypertension?	Yes
Alcohol Consumption?	Yes
Tobacco use now or in the past?	Yes
Do you have a working spouse?	No
Is claimant a good, marginal or poor employee?	Good
Rate the employees probability of returning to work (10 being most probable to return)	0
Employer unable/unwilling to accommodate light duty or RTW?	No

Claim Risk Assessment –Sample Claim #3

Key CRA Information and Potential Cost Drivers



SAMPLE CLAIM #3	
Current Age	52
Marital Status	Married
Height:	
Feet	5
Inches	8
Weight	370
BMI Score	56
Do you have any children under the age of 18 years old?	False
Highest Level of School Completed	High School Diploma or GED
Do you believe you will return to work on a scale of 10 to 10 (10 being the highest to return)	10
Employer	
Job Title	Roll off driver with trailer
Describe the specific duties you perform on a daily basis	Drop off empty dumpsters, pick up full ones
How far do you travel to work? (i.e. in minutes)	60
Describe the effects of the injury (pain, stabbing, ache, pop, leg pain, buttocks)	Pain – extreme.
Any prior injuries to this body part in the past?	Yes
Any prior Worker's Compensation claims?	Yes
Diagnosis	Fractured tibia L
First Appointment	Still in the hospital
Recommended Treatment	Not weight bearing, referral to inpatient rehab
Last Appointment	Still in the hospital
Current Treatment	Transfer to rehab
Have you returned to work since the date of the incident?	False
How far do you travel to see your treating physician? (i.e. in minutes)	90
Where do you rate your pain on a scale of 1 – 10 (10 being the highest)?	8
Alcohol consumption?	Yes
Tobacco use now or in the past?	Yes
Do you have a working spouse?	Yes
Is claimant a good, marginal or poor employee?	Good
Rate the employee's probability of returning to work (10 being most probable to return?)	0
Employer unable/unwilling to accommodate light duty or RTW?	No

Claim Risk Assessment –Sample Claim #4

Key CRA Information and Potential Cost Drivers



SAMPLE CLAIM #4	
Current Age	56
Marital Status	Married
Height:	
Feet	5
Inches	7
Weight	238
BMI Score	37
Do you have any children under the age of 18 years old?	False
Highest Level of School Completed	Higher Education (College Degree, 2 yr, 4 yr, or higher)
Do you believe you will return to work on a scale of 10 to 10 (10 being the highest to return)	0
Employer	
Date of Hire	8/27/1990
Job Title	Teacher
How far do you travel to work? (i.e. in minutes)	60
Describe the effects of the injury (pain, stabbing, ache, pop, leg pain, buttocks)	The door hit his chest, shoulder and knee.
Witnesses	No
Any injuries to this body part in the past?	Yes
Prior surgeries to this body part	Yes
Any prior Workers' Compensation claims?	Yes
Diagnosis	Left knee strain
Tests	MRI recommended
Any medications?	Ibuprofen, tramadol
Recommended Treatment	MRI
Have you returned to work since the date of incident?	False
Last doctor visit was for what?	Diabetes
How far do you travel to see your treating physician? (i.e. in minutes)	90
Where do you rate your pain on a scale of 1 – 10 (10 being the highest)?	7
Have you ever been treated for any illness such as depression, bi-polar, schizophrenia, etc.	Yes
Diabetes?	Yes
Arthritis?	Yes
Alcohol consumption?	Yes
Tobacco use now or in the past?	Yes
Is claimant a good, marginal or poor employee?	Good
Rate the employees probability of returning to work (10 being most probable to return)	10
Employer unable/unwilling to accommodate light duty or RTW?	No

Process after Identification



Once a claim has been identified as a high risk claim, CCMSI's adjuster and supervisor should work closely with our client to develop pro-active strategy to manage and mitigate ultimate claim cost if possible. Some of the items listed below show be included in their analysis:

- ✓ Nurse case management
- ✓ Utilization review
- ✓ Tighter supervisor diary to monitor file and assist adjuster
- ✓ Guidance to best panel physician based on state of jurisdiction handling requirements
- ✓ Aggressive pursuit of early RTW opportunities
- ✓ Early independent medical examinations/2nd opinions
- ✓ Surveillance
- ✓ Pre-litigation attorney intervention
- ✓ Early settlement
- ✓ Frequent reserve analysis to ensure reserve adequacy



Implementation

You have the data, now what?



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Stakeholder Solutions



- More experienced adjuster
- Increased level of managerial review
- Direct to nurse case manager
- Retain expert legal counsel
- Engage appropriate medical professionals
- Use a team approach



Ref: Lewis, Robert T. Esq. Using Data and Analytics in Workers' Compensation. 2008, 2016

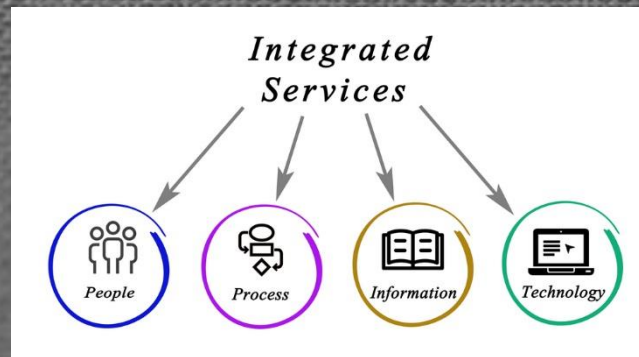
Ref: Michelle Depres, PT, CEAS II, VP, National Product Leader, Align Networks

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Integrating Claims Management Process



- Predictive modeling must integrate with operations
- Establish feedback loop
- Monthly review between predictive analytics team and claims examiners (round table)
- Claims handlers must explore innovative ways to drive resolution



Ref: Billings, Brian. Predictive Analytics, A Workers' Compensation Game Changer. Public Risk. May/June 2015

Ref: Michelle Depres, PT, CEAS II, VP, National Product Leader, Align Networks

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Exceptional Outcomes



- **Minimize risk of exploding claims**
- **Control costs**
- **Maximum medical recovery**
- **Return to work**
- **Claim settlement/closure**

Key Takeaways



- **Data is an asset – we collect it and we need to use it**
- **Data can be a tool to guide and assist in decision making**
 - **Past**
 - What happened?
 - Why and how did it happen?
 - **Present**
 - What is happening now?
 - What should we do next?
 - **Future**
 - What has the potential to happen?
 - What are the best or worst outcomes?
 - How do we plan?
- **Make better decisions**
 - More accurately
 - More consistently
 - More timely

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Questions?



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Thank you!
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