

Key Findings On Trends In WC Costs Per Claim From WCRI Benchmarking Studies

- Since 2008, slower growth in payments per claim for all cost components, compared with 1996–2008
- Factors in slower growth in medical payments/claim
 - Less use of hospital care in WC, as in general health care
 - WC prices paid for professional services grew slower than the Medical Consumer Price Index (CPI-M), especially in states with fee schedules
- Slower growth in indemnity benefits/claim: recession and recovery may be factor
 - Average weekly wage (AWW) of injured workers increased little
 - Increase in duration of temporary disability in some states
- Slower growth in key components of allocated expenses
 Key WC Workers' Compensation

Growth In All Claim Cost Components; Similar Rate For Indemnity And Medical, Faster For Expenses \$25,000 Trends In Median Study State, Claims At 36 Months Of Experience \$20,000 \$2

Since 2008, Slower Growth In Payments/Claim For All Cost Components (In Median State)

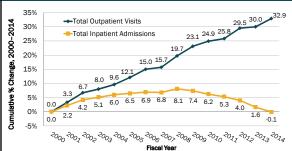
Payment Per	Annual Average Percentage Change					
Claim In Median State	1996-2013	1996-2004	2004-2008	2008-2013		
Medical	4.7%	7.8%	5.0%	2.4%		
Indemnity	5.5%	4.9%	6.4%	3.2%		
Expenses	9.0%	12.2%	10.7%	2.9%		

Less Use Of Hospital Care In WC: Follows Trends In General Health Care

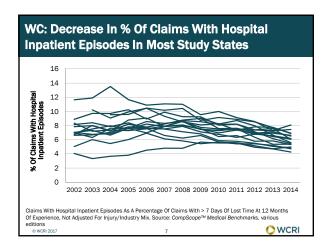
- · Decrease in hospital inpatient care
- Shift to free-standing facilities from hospital outpatient facilities, such as ambulatory surgery centers (ASCs)
- Decreased use of hospitals for some services that are more expensive when provided in hospitals; shift to nonhospital providers

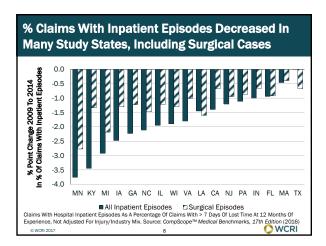
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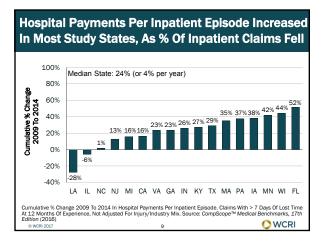
All Payors: Hospital Outpatient Use Grew Much Faster Than Inpatient Use, 2000-2014 35% ◆Total Outpatient Visits 30% -Total Inpatient Admissions

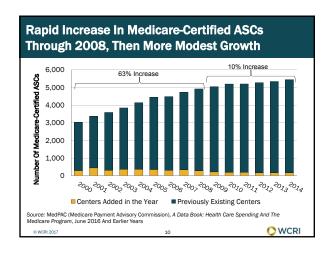


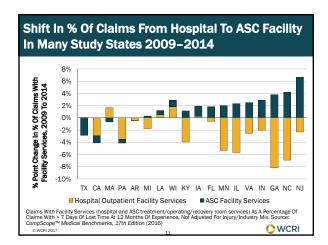
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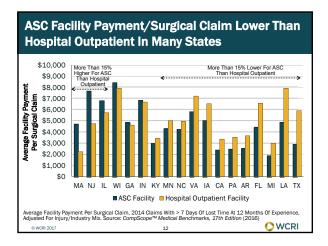


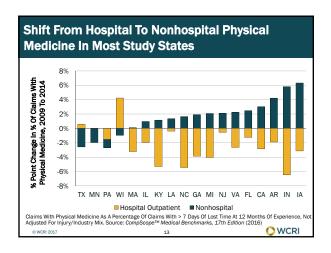


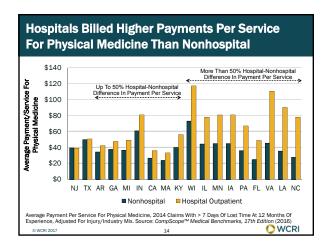


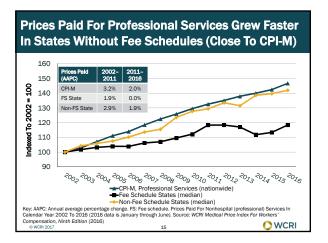










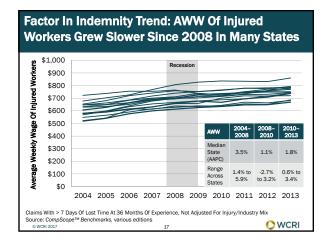


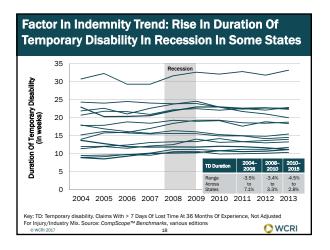
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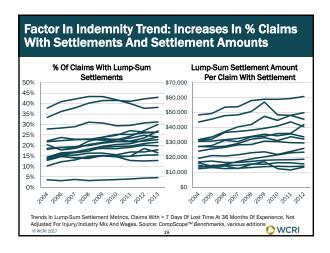
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 - > AWW of injured workers increased little
 - > Increase in duration of temporary disability in some states
- Slower growth in key components of allocated expenses

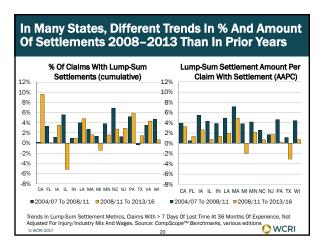
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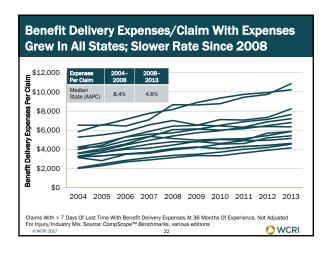
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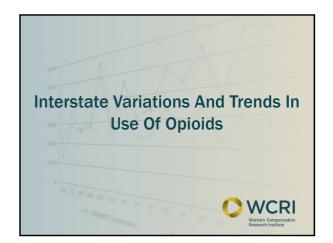
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Since 2008, Slower Growth In Key Components Of Benefit Delivery Expenses Per Claim Annual Average Percentage Change Expense Payment Per Claim With Expenses 2004-2008 In Median State 2008-2013 Medical Cost 7.9%/Year 4.5%/Year Containment Defense Attorney 5.6%/Year 2.1%/Year Payments Medical-Legal 5.8%/Year 4.2%/Year



Major Findings

- Frequency and amount of opioids per claim decreased in most states between 2010/12 and 2013/15
- More than 2 out of 3 injured workers with pain medications received opioids in majority of states
- Amount of opioids per claim continued to be higher in LA, PA; also higher in NY despite large decrease
- Opioids were frequently dispensed together with other sedating drugs

 $2013/15: Nonsurgical Claims \ With > 7\ Days \ Of Lost \ Time, Injuries \ Occurring \ From \ October \ 1, 2012, \ To \ September \ 30, 2013, \ Prescriptions \ Filled \ Through \ March \ 31, 2015. \ Similar \ notation \ is used for \ 2010/12.$

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At Least 2 In 3 Injured Workers With Pain Medications Received Opioids In Most States 80% 90% 90% 90% 90% 90% 90% 90% NJ IL MD KY CT MI NY CA PA FL TN MO IN GA MA IA VA KS TX NV WI NC MIN SC LA AR 91 Opioid Prescription 92 Or More Opioid Prescriptions 2013/15: Nonsurgical Claims With > 7 Days Of Lost Time, Injuries Occurring From October 1, 2012, To September 30, 2013, Prescriptions Filled Through March 31, 2015

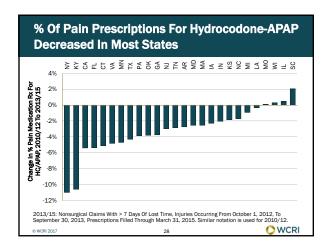
Opioid Drugs Commonly Prescribed To Injured Workers, Paid Under Workers' Compensation

% Of Pain Medication Rx That Were For	Federal Schedule	Median State	26-State Range
Hydrocodone-APAP (Vicodin®)	II*	29%	9%-45%
Tramadol (Ultram®)	IV	15%	9%-25%
Oxycodone (Percocet®, OxyContin®)	II	9%	1%-30%
All Other Opioids (Morphine, Fentanyl, Buprenorphine, etc.)	II & III	3%	2%-6%
Non-Opioid Pain Medications	-	42%	32%-57%

* The Drug Enforcement Agency rescheduled hydrocodone-combination products from Schedule III to Schedule II, effective October 2014.

Nonsurgical Claims With > 7 Days Of Lost Time, Injuries Occurring From October 1, 2012, To September 30, 2013, Prescriptions Filled Through March 31, 2015

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Federal And State Policies Addressing Opioids Prescribing And Dispensing

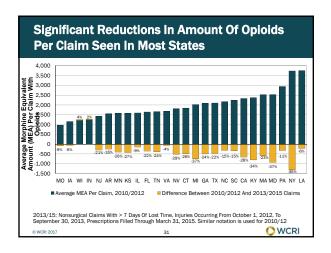
- Up-scheduling of hydrocodone-combination products
- CDC Guideline for Prescribing Opioids for Chronic Pain
- Prescription drug monitoring programs (PDMPs)
- · Treatment guidelines addressing opioids
- · Drug formularies
- Limits on prescribing and dispensing of opioids
- · Other policies addressing opioid prescribing

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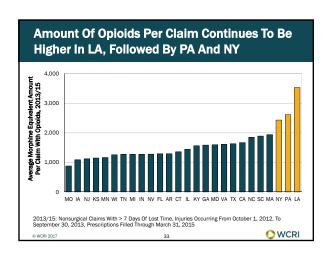
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Fewer Injured Workers With Pain Medications Received Opioids In Latest Study Period **Example of the Pain Medications Received Opioids In Latest Study Period **Example of the Pain Medications File of the Pain Medications Received Opioids In Latest Study Period **Example of the Pain Medications Received Opioids In Latest Study Period **Example of the Pain Medications Received Opioids In Latest Study Period **Example of the Pain Medications Received Opioids In Latest Study Period **Example of the Pain Medications Received Opioids In Latest Study Period **Statistically Significant At 10% Level - 18 **Statistically Significant At 10% Level - 18 - 2013/15: Nonsurgical Claims With > 7 Days Of Lost Time, Injuries Occurring From October 1, 2012. To September 30, 2013, Prescriptions Filled Through March 31, 2015. Similar notation is used for 2010/12.



Several Reforms Coincided With Reductions In Opioids Filled Over The Study Period							
	KY	NY	MD	MI	TN	MA	тх
Change In % Claims With Pain Meds. That Had Opioids	-16 ppt	-9 ppt	-6 ppt	0 ppt	-5 ppt	-1 ppt	0 ppt
Change In Average Amount Of Opioids Per Claim	-34%	-35%	-37%	-37%	-24%	-23%	-22%
PDMP Use	//	//	✓	✓	✓	✓	
Chronic Opioid Guidelines		✓				✓	
Drug Formulary							✓
Quantity Limits	✓			✓	✓		
Provider Education CME	✓					✓	✓
Pain Clinic Regulations	✓				✓		✓
CME: Continuing Medical Education; ppt: Percentage Points • WCRI 2017 32							



Higher Amount Could Be Driven By Longer Duration Or Stronger Doses

MEA per claim = Number of Rx

Quantity *
Strength *

Morphine conversion factor (CF)

Rx Fill Date	Drug Name	Morphine CF	Narcotic Strength	Qty.	MEA
01/01/2012	Vicodin®	1	5mg	40	200
01/10/2012	Percocet®	1.5	10mg	60	900
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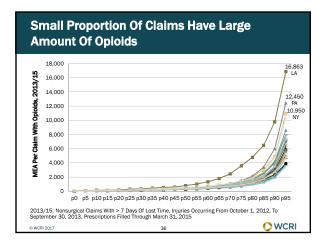
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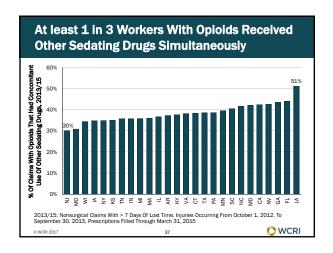
Large Variations In Duration Of Opioid Use

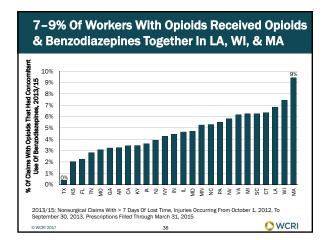
	Median Of States Studied	Range Among States Studied
Average Duration Of Opioid Use (days)	44	25-104
Average Morphine Equivalent Daily Dose Of Opioids (milligrams)	36	32-42
% Of Claims With Opioids Receiving Chronic Opioids (defined as at least 60 days of opioid supply in any 90-day period)	13%	7%-29%

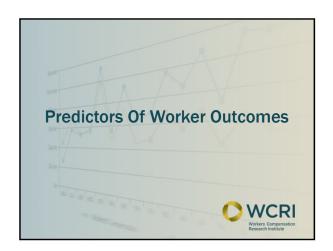
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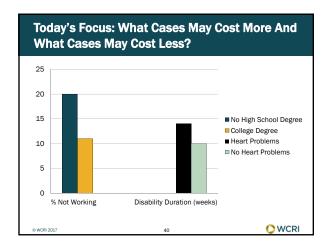












Outline Of This Presentation

- · Main predictors of worker outcomes
 - Education
 - · Fear of being fired
 - Comorbidities
 - English language proficiency
 - Other factors

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About This Study

• Multi-year surveys collecting data on factors not usually available in claims' data

Interviews In	Interviewed Workers In	Publication
2013	8 states (IN, MA, MI, MN, NC, PA, VA, and WI)	Jun 2014 publication examining key predictors of worker outcomes
2014	Added 4 more states (AR,CT, IA, and TN)	Jan 2015 publication examining key predictors of worker outcomes
2015	Added 3 more states (FL, GA, and KY)	May 2016 publication comparing worker outcomes across 15 states
2016	New interviews from 6 states interviewed in 2013 (IN, MA, MI, NC, VA, and WI)	Jun 2017 publication comparing worker outcomes across 15 states
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Worker Outcomes Measured Speed and sustainability of return to work Recovery of physical health and function Earnings recovery Access to care Satisfaction with care

Why Study Predictors Of Worker Outcomes?

- Identify claims with potential for worse or better outcomes
- Target policy interventions
- Special accommodations to speed up return to work
- Improve treatment and coordination of care
- Improve communication workers receive after an injury

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Potential Predictors Examined

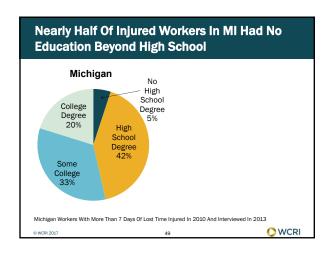
- Worker characteristics
- Employment characteristics
- Injury characteristics
- · Location characteristics
- · Selected comorbidities
- Smoking history

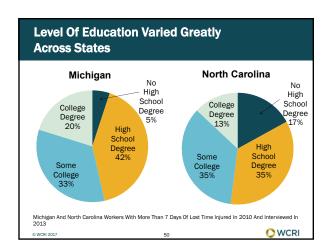
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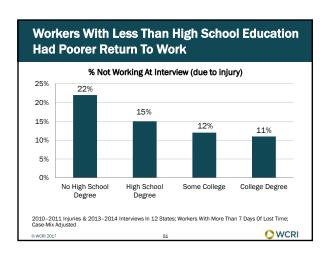
Some Predictors Are Not Standard Information Used/Collected In Claims Data Age, gender, marital status Job tenure Education · Hourly or salaried English proficiency • Part-time Nature of injury Industry Severity of injury Wage levels Prior work injury • Firm size · Certain comorbid medical · Trust in the workplace conditions Metropolitan area · Local unemployment rate WCRI **Data And Methods** • Telephone interviews · Injured in 2010 and 2011 and interviewed in 2013 and 2014 • Had more than 7 days of lost time · Analyze response bias • Estimate effect of each factor using statistical methods · Isolate effect of each factor from the others WCRI **Outline Of This Presentation** · Main predictors of worker outcomes > Education · Fear of being fired Comorbidities · English language proficiency

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· Other factors







Identifying Return-To-Work Outcomes "Due To The Injury"

- Objective: Identify outcomes due to the injury at the time of the interview
- Examples of other intervening postinjury causes
 - Auto, home, & sports accidents
 - Subsequent illness—heart attack
 - Child or elder parent care
 - · Return to school
- We ask the worker if the outcome is due to the injury
- How candid are the workers in the survey?

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Workers Seemed Candid About Whether Or Not Working Due To Injury

Age Group	% Not Working At Interview	% Not Working At Interview (Due To The Injury)	% Not Working At Interview (Not Due To The Injury)
15-24	18%	0%	18%
25-44	16%	9%	8%
45-54	23%	14%	8%
55 And Over	47%	19%	28%

Michigan Workers With More Than 7 Days Of Lost Time Injured In 2010 And Interviewed In 2013

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Outline Of This Presentation

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About The "Fear Of Firing" Predictor

• Survey question: When injured, were you afraid of being fired or laid off?

Response	% Of Workers
Strongly Disagree	53%
Somewhat Disagree	10%
Somewhat Agree	15%
Strongly Agree	23%

Those who strongly agreed were most likely to have worse outcomes

Michigan Workers With More Than 7 Days Of Lost Time Injured In 2010 And Interviewed In 2013

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Those Strongly Concerned About Being Fired Had Worse Outcomes

Outcome	Strongly Or Somewhat Disagreed (not fearful)	Strongly Agreed (fearful of being fired)
Recovery Of Physical Health And Function (higher score is better)	21	15*
RTW: Not Working At Interview (%)	10%	23%*
Duration Of Disability (weeks)	9	13*
Earning "A Lot Less" At Interview (%)	3%	16%*
Satisfaction: % Reporting "Very Dissatisfied" With Care	9%	21%*

* Statistically Significant

2010–2011 Injuries & 2013–2014 Interviews In 12 States; Workers With More Than 7 Days Of Lost Time; Case-Mix Adjusted, RTW: Return To Work

Case-Mix Adjusted. RTW: Return To Work



What Does It Mean?

- Literal interpretation
 - · Worker rightly feared layoff: firm was shrinking
 - Worker rightly feared firing: poor relationship
 - · Worker wrongly feared firing: pessimist by nature
- Broader interpretation—response is a metaphor
 - Correlated with many important intangible attributes of the worker and employer that affect worker outcomes (and employer costs)

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Those Who Strongly Agreed Were More Likely To Seek Help From Attorneys

% Of Cases Where Worker Had Attorney
3%
10%
22%

2006 Injuries, 2009 Interviews In Michigan; Workers With More Than 7 Days Of Lost Time Source: Avoiding Litigation: What Can Employers, Insurers, And State Workers' Compensation Agencies Do? (2010)

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Hypertension Was The Most Common Comorbidity Reported (1 In 3 Workers)

Treated For In Past Year	% Of Workers In Survey
Hypertension	27%
Diabetes	8%
Heart Conditions	5%

Michigan Workers With More Than 7 Days Of Lost Time Injured In 2010 And Interviewed In 2013



Workers With Comorbid Conditions Have Poorer Labor Market Outcomes

Treated For In Past Year	% Not Working At Interview (due to injury)	
Diabetes	16%	
Hypertension	16%*	
Heart Problems	18%*	
No Comorbidity	13%	

^{*} Statistically Significant

2010 - 2011 Injuries & 2013 - 2014 Interviews In 12 States; Workers With More Than 7 Days Of Lost Time; Case-Mix Adjusted

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Workers With Comorbid Conditions Have Poorer Labor Market Outcomes

Treated For In Past Year	% Not Working At Interview (due to injury)	% Reporting Earning "A Lot Less" (due to injury)	Duration Of Disability (weeks)
Diabetes	16%	12%*	10
Hypertension	16%*	7%	11*
Heart Problems	18%*	12%	12*
No Comorbidity	13%	7%	10

^{*} Statistically Significant

2010–2011 Injuries & 2013–2014 Interviews In 12 States; Workers With More Than 7 Days Of Lost Time; Case-Mix Adjusted

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Interviewed In Spanish Report Difficulty Navigating The Health Care System

Outcome	Interviewed In Spanish (4%)	Interviewed In English (96%)
Not Working At Interview	11%	14%
% Reporting "Big Problems" Getting Desired Care	24%*	14%
% Reporting "Very Dissatisfied" With Care	21%*	13%

^{*} Statistically Significant

List Of Potential Predictors Analyzed

- Age, gender, marital status Job tenure
- Education
- English proficiency
- Nature of injury
- Severity of injury
- Prior work injury
- Certain comorbid medical
 Trust in the workplace conditions
- · Hourly or salaried
- Part-time
- Industry • Wage levels
- Firm size

 - · Metropolitan area
 - Local unemployment rate



Thank You!

• For comments/questions about the findings:

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