Mega-Trends Influencing the Workers Compensation Insurance Industry

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Presentation Outline: 6 Mega-Trends

1. A Growing Exposure Base, but with a Different Mix of Risks
2. Workplace Safety Improvement Continues, but “Room” for More
3. Inflation, WC-style
4. Low Investment Returns
5. The Aging Workforce
6. The Obesity Epidemic
WC Profitability
Profits down during and after a severe recession: cause and effect?

Sources: NAIC; Insurance Information Institute
Workers Comp Return on Net Worth, by State, 2013

Top 25 States

12 states posted double-digit profit percentages in WC in 2013
Workers Comp Return on Net Worth, by State, 2013

Bottom 25 States

<table>
<thead>
<tr>
<th>State</th>
<th>Return on Net Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>MN</td>
<td>7.7%</td>
</tr>
<tr>
<td>NC</td>
<td>7.6%</td>
</tr>
<tr>
<td>OR</td>
<td>7.6%</td>
</tr>
<tr>
<td>IL</td>
<td>7.5%</td>
</tr>
<tr>
<td>KY</td>
<td>7.5%</td>
</tr>
<tr>
<td>VA</td>
<td>7.3%</td>
</tr>
<tr>
<td>US</td>
<td>7.2%</td>
</tr>
<tr>
<td>IN</td>
<td>6.7%</td>
</tr>
<tr>
<td>PA</td>
<td>6.6%</td>
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<tr>
<td>AZ</td>
<td>6.6%</td>
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<tr>
<td>MA</td>
<td>6.2%</td>
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<tr>
<td>RI</td>
<td>6.1%</td>
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<tr>
<td>GA</td>
<td>5.9%</td>
</tr>
<tr>
<td>ID</td>
<td>5.3%</td>
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<tr>
<td>CO</td>
<td>5.2%</td>
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<td>CT</td>
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<tr>
<td>OK</td>
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<tr>
<td>IA</td>
<td>5.1%</td>
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<tr>
<td>MD</td>
<td>4.8%</td>
</tr>
<tr>
<td>NJ</td>
<td>4.5%</td>
</tr>
<tr>
<td>ME</td>
<td>4.3%</td>
</tr>
<tr>
<td>LA</td>
<td>4.1%</td>
</tr>
<tr>
<td>HI</td>
<td>3.6%</td>
</tr>
<tr>
<td>CA</td>
<td>3.0%</td>
</tr>
<tr>
<td>DE</td>
<td>2.5%</td>
</tr>
<tr>
<td>WI</td>
<td>2.5%</td>
</tr>
</tbody>
</table>
Workers Comp underwriting results were the worst they have been in a decade but lately are improving.

1. A Growing Exposure Base, but with a Different Mix of Risks

Health Care, Education, Services Will Lead
The pace of job growth varies considerably from month to month.


Sources: US Bureau of Labor Statistics; Insurance Information Institute
Nonfarm Payroll (Wages and Salaries), Quarterly, 2005–2014:Q3

Note: Recession indicated by gray shaded column. Data are seasonally adjusted annual rates.
Sources: [http://research.stlouisfed.org/fred2/series/WASCUR](http://research.stlouisfed.org/fred2/series/WASCUR); National Bureau of Economic Research (recession dates); Insurance Information Institute.
Workers Comp Net Written Premiums vs. Payroll, 1990-2014:Q3

Payroll Base*
$Billions

WC NWP $Billions

Wage & Salary Disbursements WC NPW

$8,000 $7,000 $6,000 $5,000 $4,000 $3,000 $2,000

7/90-3/91 3/01-11/01 12/07-6/09

WC premium volume dropped two years before the recession began

Continued Payroll Growth and Rate Increases Suggest WC NWP Will Grow Again in 2015

*Private employment; Shaded areas indicate recessions.
Sources: NBER (recessions); Federal Reserve Bank of St. Louis at http://research.stlouisfed.org/fred2/series/WASCUR; NCCI; I.I.I.
Construction Employment, Jan. 2010—November 2014*

(Thousands)

Construction employment is +677,000 above Jan. 2011 (+12.5%).

Construction and manufacturing employment constitute 1/3 of all workers comp payroll exposure.

*Seasonally adjusted; Oct and Nov 2014 are preliminary
Manufacturing employment is a surprising source of strength in the economy. Employment in the sector is at a multi-year high.

*Seasonally adjusted; Oct and Nov 2014 are preliminary
Employment in the health care and social service sector grew in virtually every month for the last 24 years, unaffected by recessions,…

Cumulative growth over 25 years: 100.1%

…and this growth is expected to continue indefinitely

*As of Nov 2014 (Nov 2014 and Oct 2014 are preliminary); Seasonally adjusted
Note: Recessions indicated by gray shaded columns.
2. Workplace Safety Improvement Continues, but “Room” for More

The WC industry has certainly helped create/support the improvement
The death rate per 100,000 full-time-equivalent workers was 3.2 in 2013, down from 3.4 in 2012 and 3.5 in 2011.

p = preliminary; final data will be released in late Spring 2015
Number of Workplace Homicides, 1992-2013
Workplace homicides due to shootings, by industry, 2010

- Educational and health services: 4%
- Professional and business services: 4%
- Wholesale trade: 5%
- Financial activities: 6%
- Transportation and warehousing: 8%
- Other services, except public administration: 8%
- Leisure and hospitality: 15%
- Manufacturing: 3%
- Other or not reported: 4%
- Retail trade: 27%
- Government: 17%

Total = 405

Note: Percentages may not add to total due to rounding. Source: U.S. Bureau of Labor Statistics
The total number of illnesses and injuries dropped from 2003 to 2007 despite growth in employment and the aging of the workforce. The drop continued through the Great Recession.

Accidents per 10,000 Full-Time Private Workers, 2013

- **Healthcare Workers Are Injured by Violence at Almost Four Times the National Rate.**
- **Contact With Objects Much Less Common in Healthcare.**

167,150 Lost-Time Injuries and Illnesses in the Healthcare Sector in 2013, 13% a Result of Violence.

3. Inflation and Claim Severity

The Low CPI Doesn’t Reflect WC Cost Pressures
Workers Compensation Medical Severity
Moderate Increase in 2011

Average Medical Cost per Lost-Time Claim

Cumulative Change = 245%
(1991-2011p)

- Annual Change 1991–1993: +1.9%
- Annual Change 1994–2001: +8.9%
- Annual Change 2002–2010: +6.0%

1991-2010: Based on data through 12/31/2010, developed to ultimate.
Based on the states where NCCI provides ratemaking services; Excludes high deductible policies.
The average annual growth in WC medical severity from 2002 through 2009 was over 6% vs. the medical CPI (about 4%), which itself was higher than the overall CPI...

...but since 2010 growth in WC medical severity has closely tracked the medical CPI

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*I.I.I. estimate based on data through October 2014
Sources: CPI and Med CPI from US Bureau of Labor Statistics, WC med severity from NCCI based on NCCI states.*
Workers Comp Indemnity Claim Costs, 1993-2013p

Average Indemnity Cost per Lost-Time Claim

Average indemnity costs per claim have been at or below $22,500 since 2008

Indemnity Claim Cost ($ 000s)

<table>
<thead>
<tr>
<th>Accident Year</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>$2.6</td>
</tr>
<tr>
<td>1994</td>
<td>$2.7</td>
</tr>
<tr>
<td>1995</td>
<td>$2.8</td>
</tr>
<tr>
<td>1996</td>
<td>$10.4</td>
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<tr>
<td>1997</td>
<td>$11.2</td>
</tr>
<tr>
<td>1998</td>
<td>$12.2</td>
</tr>
<tr>
<td>1999</td>
<td>$13.5</td>
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<tr>
<td>2000</td>
<td>$14.8</td>
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<tr>
<td>2001</td>
<td>$16.2</td>
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<tr>
<td>2002</td>
<td>$16.7</td>
</tr>
<tr>
<td>2003</td>
<td>$17.5</td>
</tr>
<tr>
<td>2004</td>
<td>$17.6</td>
</tr>
<tr>
<td>2005</td>
<td>$18.3</td>
</tr>
<tr>
<td>2006</td>
<td>$19.3</td>
</tr>
<tr>
<td>2007</td>
<td>$20.5</td>
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<tr>
<td>2008</td>
<td>$22.3</td>
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<tr>
<td>2009</td>
<td>$20.8</td>
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<td>2010</td>
<td>$21.9</td>
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<tr>
<td>2011</td>
<td>$22.1</td>
</tr>
<tr>
<td>2012</td>
<td>$22.2</td>
</tr>
<tr>
<td>2013p</td>
<td>$22.7</td>
</tr>
</tbody>
</table>

2010p: Preliminary based on data valued as of 12/31/2011
1991–2010: Based on data through 12/31/2010, developed to ultimate
Based on the states where NCCI provides ratemaking services
Excludes high deductible policies
WC Indemnity Severity No Longer Grows Faster than Wages, 1995-2013

NCCI data on WC severity is based on the states where NCCI provides ratemaking services. Excludes the effects of deductible policies.
Sources: NCCI, BLS, from Current Population Survey
4. Low Investment Returns

Yields on 10-Year U.S. Treasury Notes have been essentially below 5% for over a dozen years.

Since roughly 80% of P/C bond/cash investments are in 10-year or shorter durations, most P/C insurer portfolios will have low-yielding bonds for years to come.

*Monthly, constant maturity, nominal rates, through December 2014.
Fed actions will likely keep interest rates low for at least 2015

In a prolonged period of low interest rates, each year maturing higher-rate bonds are replaced with lower rates, building in a low portfolio yield that will last for the duration of the newer bonds

Industry must be prepared to operate in an environment in which investment returns are a much smaller fraction of profits

- Drives rates higher? Regulators will not accept this
- Stiffens underwriting discipline? Yet to manifest itself

Source: Insurance Information Institute.
5. The Aging Workforce
The switch from DB pension plans (with early-retirement incentives) to DC plans (with, in effect, later-retirement incentives) might be partly responsible for raising this rate.

The labor force participation rate for workers 70-74 grew by about 50% since 1998. Growth in the participation rate has stalled at about 19% since 2013.

Labor Force Participation Rate, Ages 70-74, Quarterly, 1998:Q1-2014:Q4

Nearly 1 in 4 men and 1 in 7 women in this age group is working. The percent of women working has nearly doubled.

The labor force participation rate for workers 70-74 grew by about 50% since 1998. Growth in the participation rate has stalled at about 19% since 2013.

The labor force participation rate for workers 75 and over could hit 10% soon. This is close to what the rate was for the 70-74 group a decade ago.

In the last 15 years, the labor force participation rate for workers 75 and over grew from 4.5% to 8.6% (in 2013:Q1), but has since fallen slightly.

The labor force participation rate for workers 75 and over has doubled since 1998, but growth in the participation rate has slowed recently.

Nearly 1 in 8 men in this age group is working.

The percent of women in this age group that is working has doubled.

Fatal Work Injury Rates Improved Slightly Since 2006 but Still Climb Sharply With Age

The fatality rate for workers 65 and older was 4 times that of workers age 25-34. The workplace of the future will have to be completely redesigned to accommodate the surge in older workers.

2013 data are preliminary
Older Workers Lose More Days from Work Due to Injury or Illness

Median Days Away From Work

- 2009
- 2010
- 2011
- 2012
- 2013

Youngest baby boomer is age 51 (in 2015)

Oldest baby boomer is age 69 (in 2015)

Median lost time of workers age 65+ is 2-3X that of workers age 25-34. These numbers are pretty stable—they haven’t changed much since 2008.

Percent of Days-Away-from-Work Cases, by Days Lost and Age Group, 2012

Over one-third of days-lost cases of older workers involved a month or more away from work. And virtually 9 of 10 cases were for at least two days, compared to 8 of 10 for the youngest workers.

### Percent of Days-Away-from-Work Cases, by Days Lost and Age Group, 2013

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1 day</th>
<th>2 days</th>
<th>3-5 days</th>
<th>6-10 days</th>
<th>11-20 days</th>
<th>21-30 days</th>
<th>31 days or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>65+</td>
<td>9.4</td>
<td>8.4</td>
<td>13.3</td>
<td>11.8</td>
<td>13.7</td>
<td>8.7</td>
<td>34.7</td>
</tr>
<tr>
<td>55-64</td>
<td>10.5</td>
<td>8.5</td>
<td>15.5</td>
<td>11.4</td>
<td>11.8</td>
<td>7.2</td>
<td>35.2</td>
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<tr>
<td>45-54</td>
<td>12.0</td>
<td>9.6</td>
<td>15.5</td>
<td>11.2</td>
<td>10.9</td>
<td>6.8</td>
<td>33.9</td>
</tr>
<tr>
<td>35-44</td>
<td>13.7</td>
<td>11.2</td>
<td>17.4</td>
<td>12.1</td>
<td>10.4</td>
<td>5.9</td>
<td>29.4</td>
</tr>
<tr>
<td>25-34</td>
<td>17.0</td>
<td>12.5</td>
<td>18.3</td>
<td>12.2</td>
<td>10.5</td>
<td>6.1</td>
<td>23.5</td>
</tr>
<tr>
<td>20-24</td>
<td>20.1</td>
<td>14.8</td>
<td>19.2</td>
<td>14.0</td>
<td>10.3</td>
<td>4.8</td>
<td>16.8</td>
</tr>
</tbody>
</table>

Over one-third of days-lost cases of older workers involved a month or more away from work. And over 9 of 10 cases were for at least two days, compared to 8 of 10 for the youngest workers.

Older Workers Are Much More Likely to Break a Bone

**Incidence Rate* (2012)**

- **Fractures**
- **Multiple Traumatic Injuries**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Fractures</th>
<th>Multiple Traumatic Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24</td>
<td>6.6</td>
<td>2.8</td>
</tr>
<tr>
<td>25-34</td>
<td>6.4</td>
<td>3.3</td>
</tr>
<tr>
<td>35-44</td>
<td>6.9</td>
<td>3.2</td>
</tr>
<tr>
<td>45-54</td>
<td>8.6</td>
<td>4.5</td>
</tr>
<tr>
<td>55-64</td>
<td>11.9</td>
<td>4.6</td>
</tr>
<tr>
<td>65+</td>
<td>13.9</td>
<td>5.0</td>
</tr>
</tbody>
</table>

*per 10,000 full-time-equivalent workers

Older Workers Are Much More Likely to Break a Bone

Incidence Rate* (2013)

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<thead>
<tr>
<th>Age Group</th>
<th>Fractures</th>
<th>Multiple Traumatic Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24</td>
<td>6.8</td>
<td>1.8</td>
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<tr>
<td>25-34</td>
<td>6.6</td>
<td>2.6</td>
</tr>
<tr>
<td>35-44</td>
<td>7.0</td>
<td>3.0</td>
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<tr>
<td>45-54</td>
<td>9.7</td>
<td>3.6</td>
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<tr>
<td>55-64</td>
<td>11.9</td>
<td>3.5</td>
</tr>
<tr>
<td>65+</td>
<td>16.5</td>
<td>4.4</td>
</tr>
</tbody>
</table>

*per 10,000 full-time-equivalent workers
Older Workers Are More Likely Than Younger Workers to Slip/Fall, but Less Likely to Overexert Themselves

Source/Nature of Injury:

- Falls, slips, trips
- Overexertion

Incidence Rate (2012)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Falls, slips, trips</th>
<th>Overexertion</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24</td>
<td>20.3</td>
<td>32.7</td>
</tr>
<tr>
<td>25-34</td>
<td>20.5</td>
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<td>35-44</td>
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<td>46.6</td>
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<tr>
<td>55-64</td>
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<td>39.4</td>
</tr>
<tr>
<td>65+</td>
<td>41.7</td>
<td>22</td>
</tr>
</tbody>
</table>

Older Workers Are More Likely Than Younger Workers to Slip/Fall, but Less Likely to Overexert Themselves

In 1994, in no state was the percent of adults who were obese as high as 20%.

By 2010, all 50 states had adult obesity rates of 20% or more. In 18 states in 2013, 30% of the adults were obese.
Obesity Trends Among U.S. Adults
BRFSS, 1994

Source: http://www.cdc.gov/obesity/data/trends.html#State
Obesity Trends Among U.S. Adults
BRFSS, 2013

Prevalence* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2013

Source: Behavioral Risk Factor Surveillance Systems, CDC.

Source: http://www.cdc.gov/obesity/data/trends.html#State
The Most Obese Workers File Twice as Many WC Claims as Healthy-Weight Workers

The most obese have twice as many claims and 13 times more lost workdays than healthy weight workers.

WC Medical Claims and Indemnity Costs are 5-10x Higher for the Most Obese Workers

Medical Claims Costs

Indemnity Claims Costs

BMI <18.5 (Underweight)

18.5-24.9 (Healthy Weight)

25-29.9 (Overweight)

30-34.9 (Obese Class I)

35-39.9 (Obese Class II)

40+ (Obese Class III)

Indemnity costs are 11 times higher for the most obese workers than for healthy-weight workers.

The most obese workers cost employers for greater medical care and by being less productive (by being absent more and being less productive when at work.)

Insurance Information Institute Online:

www.iii.org

Thank you for your time and your attention!