Hidden Dangers
Uncovering the Risk of Comorbidities
What are comorbidities
How they impact a claim
How to identify
Make a difference
Partnering for a solution
Two or more coexisting medical conditions or disease processes that are additional to an initial diagnosis. Often chronic or long term conditions.
80% of Medicare spending for patients with 4 or more chronic conditions

Costs increasing exponentially as the number of chronic conditions increases
Claims With a Comorbidity Diagnosis Are Increasing

<table>
<thead>
<tr>
<th>Year</th>
<th>Share of Claims With a Comorbidity Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2%</td>
</tr>
<tr>
<td>2001</td>
<td>3%</td>
</tr>
<tr>
<td>2002</td>
<td>3%</td>
</tr>
<tr>
<td>2003</td>
<td>4%</td>
</tr>
<tr>
<td>2004</td>
<td>4%</td>
</tr>
<tr>
<td>2005</td>
<td>5%</td>
</tr>
<tr>
<td>2006</td>
<td>5%</td>
</tr>
<tr>
<td>2007</td>
<td>6%</td>
</tr>
<tr>
<td>2008</td>
<td>6%</td>
</tr>
<tr>
<td>2009</td>
<td>7%</td>
</tr>
</tbody>
</table>

Accident Year
Claims with Comorbidities have Tripled

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2.4%</td>
</tr>
<tr>
<td>2010</td>
<td>6.6%</td>
</tr>
</tbody>
</table>
Illness Rates in the General Population Are Increasing

- Hypertension—WC: 0.9%, 2.8%, 2.8%...
- Hypertension—CDC:...
- Obesity—WC: 0.1%, 0.3%, 20.1%...
- Obesity—CDC:...
- Diabetes—WC: 0.3%, 1.0%, 4.4%...
- Diabetes—CDC: 6.7%
Claims with Comorbidity Diagnosis: Male v. Female

- Hypertension
- Chronic Pulmonary
- Diabetes
- Drug Abuse
- Obesity
- All Claims

-5% 5% 15% 25% 35% 45% 55% 65% 75%

Female  Male
Comorbidities = Higher Risk and Costs

Smokers
40% more likely to have workplace injury

Diabetics
5x higher medical costs

Obesity
2x more likely to have workplace injury
7x higher medical costs
13x more lost time days
Health Status
Workers Age 51-59

5% Excellent to Very Good Health
35% Fair to Poor Health

Source: National Academy on an Aging Society
Average Incurred by Comorbidity

- Diabetes, Hypertension, Obesity: $36,975
- All Obesity: $40,400
- All Diabetes: $27,554
- All Hypertension: $28,180
- All Drug Abuse: $29,879
- Indemnity - No-Comorbidity: $12,009
## Indemnity Claims with Comorbidities

<table>
<thead>
<tr>
<th>Condition</th>
<th>Frequency</th>
<th>Average Incurred</th>
<th>Factors vs. # of Comorbidities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes, Hypertension, Obesity</td>
<td>.2%</td>
<td>$36,975</td>
<td>3.1</td>
</tr>
<tr>
<td>All Obesity</td>
<td>1.8%</td>
<td>$40,400</td>
<td>3.4</td>
</tr>
<tr>
<td>All Diabetes</td>
<td>3%</td>
<td>$27,554</td>
<td>2.3</td>
</tr>
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<td>All Hypertension</td>
<td>9.1%</td>
<td>$28,180</td>
<td>2.3</td>
</tr>
<tr>
<td>All Drug Abuse</td>
<td>3%</td>
<td>$29,879</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Indemnity-Comorbidity</strong></td>
<td>15%</td>
<td>$26,905</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Indemnity - No Comorbidity</strong></td>
<td>85%</td>
<td>$12,009</td>
<td></td>
</tr>
</tbody>
</table>
Types of Comorbidities

Diabetes
Arthritis
Hypertension
Obesity
Heart Disease
A Classic Example

The literature on the management of ankle fractures in patients with diabetes has shown outcomes to be generally poor

42.3 % incidence of complications in patients with diabetes compared to people without (McCormick and Leith)

Conservative management may be preferable to surgical treatment

32 % higher infection rate found in people with diabetes (Flynn, et. al.)

Those patients with diabetes who were treated conservatively had a greater tendency to become infected over those who treat with open reduction internal fixation (ORIF)

People with diabetes who are poorly controlled and had evidence of neuropathy were shown to be very difficult to manage
Osteoarthritis

Most common joint disorder affecting Hands, Hips, Knees, Neck, Back

10 extra pounds of weight increases the force on the knee by 30-60 pounds with each step
Common Comorbidities Among Adults With Arthritis

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>25%</td>
</tr>
<tr>
<td>Chronic Resp Conditions</td>
<td>15%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>10%</td>
</tr>
<tr>
<td>Stroke</td>
<td>5%</td>
</tr>
</tbody>
</table>

Data source: National Health Interview Survey, 2007
Risk Factors for Other Chronic Conditions

- High BP: 53%
- Inactivity: 47%
- High Cholesterol: 47%
- Obesity: 36%
- Current Smoker: 19%

Data source: National Health Interview Survey, 2007
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Did you know...

Obese claims are 2.8 times more expensive.

Cost difference rises to a factor of 4.5 at the three year maturity and to 5.3 at the five year maturity.

The cost difference (at the five year maturity) is less for females than for males.
Obesity Related Comorbidities

Hypertension
Dyslipidemia
Diabetes
Coronary Heart Disease
Stroke
Gall Bladder Disease

Osteoarthritis
Orthopedic Problems
Impaired Mobility
Peripheral Vascular Disease
Kidney Failure
Sleep Apnea
The most obese have 13 times more lost workdays than healthy-weight workers.
Indemnity costs are 11 times higher for the most obese workers than for healthy-weight workers.
Risk Assessment
Early Intervention
Medical Provider

How to Identify
Partnersing for a Solution

- Early Identification
- Customized Treatment Plan
- RTW Expectations
- Physician Engagement
Medical Management

Telephonic

Field

Medical Director

Custom Treatment Plan
Communication

RTW Coordinator
Claims Professional
Medical Management
Have a Plan

Round Table

Claim Review
Achieve Great Results

Appropriate Interventions

Set Reasonable RTW

Tailored Treatment Plan

Reduce Overall Costs