BURDEN OF ILLNESS
Overview
Burden of Low Back Pain

- **Number one** cause of work-related disability\(^1\)
- **2\(^{nd}\) most common reason** (after respiratory illness) for symptom-related physician visits\(^2\)
- **5\(^{th}\) reason** for medical office visits\(^2\)

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Physical Burden
## Impact of Low Back Pain on Functional Abilities

<table>
<thead>
<tr>
<th>Items</th>
<th>Median (IQR) Functional Ability*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
</tr>
<tr>
<td>Pain intensity</td>
<td>54.0 (26.0–67.0)</td>
</tr>
<tr>
<td>Personal care</td>
<td>27.0 (9.0–45.0)</td>
</tr>
<tr>
<td>Lifting</td>
<td>49.0 (29.0–73.0)</td>
</tr>
<tr>
<td>Walking</td>
<td>34.0 (12.0–63.0)</td>
</tr>
<tr>
<td>Sitting</td>
<td>41.0 (19.0–65.0)</td>
</tr>
<tr>
<td>Standing</td>
<td>40.0 (20.0–63.0)</td>
</tr>
<tr>
<td>Sleeping</td>
<td>29.0 (12.0–50.0)</td>
</tr>
<tr>
<td>Sex life</td>
<td>24.0 (7.0–47.0)</td>
</tr>
<tr>
<td>Social life</td>
<td>28.0 (5.0–50.0)</td>
</tr>
<tr>
<td>Travelling</td>
<td>38.0 (16.0–65.0)</td>
</tr>
</tbody>
</table>

*Measured using visual analog scale
IQR = interquartile range
Economic Burden
Financial Costs Associated with Low Back Pain

- Low back pain is the **number one cause of occupational disability** in people younger than 45 years of age.
- At least **1%** of the US population is disabled due to low back pain.
- Estimated direct costs to US society are **$20–50 billion per year**.
- Indirect costs (i.e., lost wages and productivity, legal and insurance expenses) exceed **$100 billion per year**.
- A large percentage of costs are for diagnosis/treatment and unnecessary prescriptions for rest.
- The few patients who become chronically disabled account for **80% of costs**.

US = United States

Economic Impact of Low Back Pain

- Costs associated with low back pain exceed costs associated with coronary disease and combined costs of rheumatoid arthritis, respiratory infection, stroke and diabetes\(^1\)
- Direct costs for chronic low back pain account for 15% of the total annual cost per patient\(^2\)
- Indirect costs account for 85% of the total annual medical cost per patient\(^2\)

Economic Impact of Low Back Pain

Results of a meta-analysis demonstrated:

• Comorbidities including musculoskeletal pain, neuropathic pain, depression, anxiety and sleep disorders were more common in patients with chronic low back pain than in control patients

• Drug use was significantly higher in patients with low back pain

• Direct costs for patients with chronic low back pain were nearly triple those of control patients

Cost of Low Back Pain with a Neuropathic Component

- Costs for patients with neuropathic back pain higher than for typical back pain patients
  - As much as 67% high than costs for a patient with nociceptive back pain only

United States

• Total costs of low back pain exceed $100 billion per year\textsuperscript{1}

United Kingdom

• Direct costs of back pain estimated to be £1.6 billion per year\textsuperscript{2}
• Indirect costs of musculoskeletal disorders including back pain are estimated to be £590-624 million per year\textsuperscript{3,4}

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Comorbidities
## Low Back Pain Comorbidities

<table>
<thead>
<tr>
<th>Pain cohorts</th>
<th>Comorbid pain conditions* (%)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stroke</td>
<td>LR</td>
</tr>
<tr>
<td>Low back</td>
<td>4.2</td>
<td>9.8</td>
</tr>
<tr>
<td>Lumbar radiculopathy</td>
<td>4.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Note: infrequent comorbid conditions were omitted from the comorbid pain conditions in the table.

CR = cervical radiculopathy; HIV = human immunodeficiency virus; IC = interstitial cystitis; Fibro = fibromyalgia; LR = lumbar radiculopathy; MS = multiple sclerosis; OA = osteoarthritis; PBS = painful bladder syndrome; RA = rheumatoid arthritis

## Sleep and Mental Health Comorbidities Associated with Low Back Pain

<table>
<thead>
<tr>
<th>Pain cohorts</th>
<th>&gt;1 sleep comorbidity (%)</th>
<th>&gt;1 mental health comorbidity (%)</th>
<th>Mental health condition Mean (SD)</th>
<th>Depression (%)</th>
<th>Other depressive symptoms</th>
<th>Total</th>
<th>Other psych disorders (%)</th>
<th>Anxiety (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low back</td>
<td>7.3</td>
<td>18.4</td>
<td>1.4 (0.8)</td>
<td>4.5</td>
<td>4.4</td>
<td>7.9</td>
<td>4.8</td>
<td>6.5</td>
</tr>
<tr>
<td>Lumbar radiculopathy</td>
<td>8.1</td>
<td>17.1</td>
<td>1.4 (0.7)</td>
<td>4.5</td>
<td>3.7</td>
<td>7.5</td>
<td>4.4</td>
<td>5.6</td>
</tr>
</tbody>
</table>

MDD = major depressive disorder; SD = standard deviation

Summary
Burden of Illness of Low Back Pain: Summary

- Reduces a patient’s ability to function
- Increases health care utilization and costs