The “Costs” of Urinary Incontinence for Women

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Urinary Incontinence

- Common
  - 25% reproductive age women
  - 40% postmenopausal women
- Chronic - social seclusion
  - Profound effect of QOL
  - 3x Nursing home admits, falls & fractures
- Costly
  - $26 billion annually
  - More than all cancer care for women


<table>
<thead>
<tr>
<th>Condition</th>
<th>Direct Cost (billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer</td>
<td>6</td>
</tr>
<tr>
<td>Infertility</td>
<td>3</td>
</tr>
<tr>
<td>Incontinence</td>
<td>23</td>
</tr>
<tr>
<td>Overactive Bladder</td>
<td>14</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>32</td>
</tr>
<tr>
<td>PID</td>
<td>2</td>
</tr>
</tbody>
</table>

Annual Costs ($2004)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Total $</th>
<th>Direct $</th>
<th>Indirect $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>375</td>
<td>230</td>
<td>145</td>
</tr>
<tr>
<td>Injury/Accidents</td>
<td>268</td>
<td>40</td>
<td>228</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>232</td>
<td>34</td>
<td>198</td>
</tr>
<tr>
<td>Smoking</td>
<td>206</td>
<td>100</td>
<td>106</td>
</tr>
<tr>
<td>Cancer</td>
<td>184</td>
<td>67</td>
<td>117</td>
</tr>
<tr>
<td>Diabetes</td>
<td>143</td>
<td>100</td>
<td>43</td>
</tr>
<tr>
<td>Obesity</td>
<td>138</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>Dementia</td>
<td>70</td>
<td>55</td>
<td>15</td>
</tr>
</tbody>
</table>
Cost of Incontinence Studies

- Minimal primary cost data
- Most analyses descriptive
- Inaccurate assumptions
- Rare sensitivity analyses
- Poor generalizability

UI: Cost-of-illness

- Estimate annual direct costs incontinence
- Increase the accuracy and generalizability
  - Prevalence-based epidemiologic model
  - Updated incontinence prevalence data
  - Primary data for routine care costs
  - Average national Medicare reimbursements
  - Stratify costs by type of therapy
  - Estimated cost by residence and type of UI

Annual Direct Cost of UI

$16.3 billion ($1995)
  - Community-dwelling: $10.8 billion ($552 / person)
  - Institutionalized: $5.5 billion ($3,687 / person)


Annual Direct Cost Of UI

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>$12.4</td>
<td>(76%)</td>
</tr>
<tr>
<td>Elderly</td>
<td>$10.8</td>
<td>(66%)</td>
</tr>
<tr>
<td>Routine care</td>
<td>$11.3</td>
<td>(70%)</td>
</tr>
<tr>
<td>Institutionalization</td>
<td>$2.4</td>
<td>(15%)</td>
</tr>
<tr>
<td>Treatment</td>
<td>$1.3</td>
<td>(8%)</td>
</tr>
<tr>
<td>Complications</td>
<td>$1.0</td>
<td>(7%)</td>
</tr>
</tbody>
</table>

**Cost of UI: Different Assumptions...**

- ↑ prevalence
- ↑ routine care costs

$26.3 billion ($1995)  
$3,565 per patient  

*Wagner & Hu. Urol 1998*

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**Incontinence Costs - Summary**

- Focus on cost containment:  
  - Community-dwelling population  
  - Incontinence prevention  
  - Treatment of those at high risk of institutionalization  
  - Directed therapy to reduce routine care costs
“Costs” of Incontinence

- **Economic**
  - $>20 billion per year
  - More than annual cost of *all* cancer care
  - 50-70% of cost for UI management

- **Psychosocial**
  - ↓ Quality of life
  - ↑ Willingness to pay for UI improvement

“Costs” of UI for Women

Diagnostic Aspects of Incontinence Study (DAISy)
- 293 women with ≥ 3 UI episodes per week

Reproductive Risks factors for Incontinence Study at Kaiser (RRISK)
- 485 women ≥ weekly UI episodes

Stress Incontinence Surgical Treatment Efficacy Trial (SISTEr)
- 655 women electing surgery for stress UI

Subak 2006; Subak 2007; Subak 2008

Objectives

- To estimate
  - Costs of routine care for UI
  - HRQOL associated with UI
  - Willingness to pay for UI improvement

- Explore the predictors of cost, QOL and WTP

Methods

- Costs: itemized resource use
  - Pads, laundry, etc
  - Units used × national resource costs

- Quality of life
  - Validated instrument (HUI3)

- Willingness to pay (WTP)
  - 25 to 100% improvement in UI frequency
Results

Similar population characteristics
- Mean age ~ 55 years
- Range of UI frequency & severity
  - Mean 20-30 UI episodes / week
  - mild 5%, moderate 60%, severe 25%, very severe 10%

UI Management Costs

<table>
<thead>
<tr>
<th>Cost per week</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRISK</td>
<td>$5</td>
<td>$2</td>
</tr>
<tr>
<td>DAISY</td>
<td>$9</td>
<td>$4</td>
</tr>
<tr>
<td>SISTER</td>
<td>$14</td>
<td>$8</td>
</tr>
</tbody>
</table>

- Mean cost per year: $250 - 750
- ~1% of median annual household income
- Paid out-of-pocket by women

Predictors of Cost

Costs (multivariate analysis)
- ↑ 80% for African American women
- ↑ 4-fold with UI frequency
- ↑ 50% for urge/mixed vs. stress UI

Health-Related Quality of Life

HUI3
- Range: 0 (death) to 1.00 (best health)
- Severe clinical impact: ↓ of 0.09
- Population-based mean, no med dx: 0.92

HUI3 Score
- DAISY 0.85
- SISTER 0.73

Subak 2007; Subak 2008
Predictors of HRQOL

Factors associated with ↓ HU13 score
- Age
- Higher BMI
- 3 UTI in past year
- Lower annual income
- UI frequency

Mean HUI3 scores in published population-based, cross-sectional studies of chronic health conditions
Mittmann 1999; Schultz 2003

Willingness to pay for improvement in UI

- WTP for UI improvement increased
  - 5-fold for African American women
  - 2-fold for Latina women
  - 2-fold for ↑ household income

DAISY: Subak 2006
Willingness to pay for UI improvement

Factors associated with WTP

- **WTP for Cure increased:**
  - 4-fold with household income (high vs. low tertile)
  - 3-fold with UI frequency (high vs. low quartile)

- **WTP for Cure decreased:**
  - 45% with poorer health status (fair/poor vs. excellent)
  - 45% with prior incontinence surgery

Conclusions

- **High $ cost for UI management ($250-750/yr)**
  - 1% of median annual household income
  - Similar to out-of-pocket spending on Rx drugs
  - *Not reimbursed by 3rd party payers*

- **Severe impact on health-related QOL**
  - Similar to stroke, cancer, DM, back pain, dementia

- **High WTP for UI improvement**
  - Similar to cure of asthma, migraine and GERD sx

Could these be labelled “expected improvement” so they are consistent with the heading below