PRESCRIPTION CHANGES DURING GERIATRIC CARE EPISODES
A trend analysis
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• Prescription changes during care episodes and over time

• Factors potentially contributing to such changes
What does a geriatrician do?

• ”Terminates all drug treatment”?

• ”Inserts too many additional drugs”?

• ”Optimizes drug treatment for every individual”? 
Crucial issues

• Differences between prescribed drugs at admission and discharge

• Improvements? During the care episode – over the years?

• How do we measure this?

• What determines such differences?
  – Comorbidity? Age? Sex? Number of drugs? Length of care episodes?
Warranted:
Outcome measure(s)⁉?

• Relation to guidelines? – not appropriate

• Relation to quality indicators of the Swedish National Board of Health and Welfare? – not appropriate

• Number of drugs? – not appropriate

• Prescription changes?
  – such as at discharge remaining changes of regularly used drugs
Prescription changes

• Positive
  – Sign of expressed ambition
  – Sign of expressed activity
  – Indicating enhanced sensitivity

• Negative
  – Not yet validated
Corroborating prescription changes as outcome measure by the use of IDU-index

• IDU (inappropriate drug use) index
  based on six indicators from the Swedish National Board of Health and Welfare:
  – Longacting bensodiazepines
  – Moore than three psychotropic drugs
  – Drug doubling
  – Anticholinergic drugs
  – C-interactions
  – D-interactions
Correlation
prescription changes - IDU-index

<table>
<thead>
<tr>
<th>Correlation with prescription changes</th>
<th>Coefficient</th>
<th>SD</th>
<th>p-value</th>
<th>95% KI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in IDU-index</td>
<td>0.570</td>
<td>0.203</td>
<td>0.005*</td>
<td>0.171 – 0.969</td>
</tr>
</tbody>
</table>
Warranted: the archetypical geriatric patient

• Diagnostic choice pneumonia
  – Justification:
    • prevalent, wide range of older individuals

• Inclusion criteria
  – All patients with main diagnosis pneumonia in one geriatric clinic in Stockholm
  – Pneumonia related treatment excluded
The patients

<table>
<thead>
<tr>
<th>Year of inclusion</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>146</td>
<td>134</td>
<td>140</td>
</tr>
<tr>
<td>Age, years, mean</td>
<td>84,3</td>
<td>85,2</td>
<td>84,0</td>
</tr>
<tr>
<td>Proportion females, %</td>
<td>54,8</td>
<td>53,0</td>
<td>57,1</td>
</tr>
<tr>
<td>Comorbidity, Charlson</td>
<td>1,9</td>
<td>2,2</td>
<td>2,4</td>
</tr>
</tbody>
</table>
LENGTH OF CARE EPISODES  |  NUMBER OF DRUGS AT ADMISSION | NUMBER OF DRUGS AT DISCHARGE | NUMBER OF PRESCRIPTION CHANGES
--- | --- | --- | ---
2005 | 2010 | 2015
12,2 | 10,8 | 9,9 | 6,4 | 8,3 | 8,8 | 6,3 | 7,9 | 8,8 | 1,88 | 2,13 | 1,1

• Increased number of comorbidities
• Increased number of drugs at admission and discharge
• Shorter care episodes
• Fewer prescription changes
Changes during a geriatric care episode

• Improvement 2005 and 2010 assessed by the IDU-index
• Detoriation 2015 assessed by the IDU-index
Regression analysis: 1 factor

- Age – NO
- Sex – NO
- Number of drugs at admission – NO
- Comorbidity – 2015 YES, totally – NO

- Length of care episode – YES
Correlation between prescription changes and length of care episodes

<table>
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<th>Correlation with prescription changes</th>
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<th>p-value</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Length of care episode</td>
<td>0.073</td>
<td>0.012</td>
<td>0.000*</td>
<td>0.050 – 0.097</td>
</tr>
</tbody>
</table>
Shorter length of care episode, fewer drug changes – but decreasing quality?
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CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report