Concordance of Frailty among Community-Dwelling Older Couples: An Administrative Health Data Study

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The Challenge
The Challenge

- Increasing focus on developing programs and services to help older Canadians maintain their independence and remain in their homes for as long as possible
  - AGE-WELL Challenge Area: Supportive Homes & Communities

- As we age, sickness and frailty can become a more regular part of their lives
  - Major impacts on individual health and healthcare resource utilization

- For those who remain in their homes, burden of care falls on their co-habitants
  - Who are most often their partners/spouses
Background

- Rapidly expanding aging Canadian population will lead to a higher burden of frailty at the population level

- Frailty in one spouse is shown to influence development of frailty-related health outcomes in the other
  - Research limited to small samples, lack of Canadian data, conflicting results

- A better understanding can provide insights into opportunities for intervention
  - Early identification of high-risk groups is essential
Research Study
Objective

To characterize the concordance of frailty in community-dwelling older couples
Overview

37,000 Community-Dwelling Older Couples (CDOC)

Hospital Frailty Risk Score (HFRS)

10% both hospitalized

80% low/no frailty risk

2% high/inter
Age by Frailty Risk and Sex

Results I

<table>
<thead>
<tr>
<th>Frailty Risk</th>
<th>Mean Age</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not hospitalized</td>
<td>73</td>
<td>75</td>
<td>73</td>
<td>75</td>
<td>73</td>
</tr>
<tr>
<td>Hospitalized, no indicator conditions</td>
<td>73</td>
<td>75</td>
<td>75</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Low Risk</td>
<td>75</td>
<td>77</td>
<td>75</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Intermediate Risk</td>
<td>79</td>
<td>79</td>
<td>79</td>
<td>79</td>
<td>81</td>
</tr>
<tr>
<td>High Risk</td>
<td>81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hospitalizations by Frailty Risk and Sex

Results II

<table>
<thead>
<tr>
<th></th>
<th>Hospitalized, no indicator conditions</th>
<th>Low Risk</th>
<th>Intermediate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Mean # hospitalizations</td>
<td>1.5</td>
<td>1.6</td>
<td>2.0</td>
<td>2.2</td>
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<tr>
<td></td>
<td>3.0</td>
<td>3.1</td>
<td>3.9</td>
<td>4.3</td>
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</tbody>
</table>

Legend: F = Female, M = Male
Frailty Risk Score Concordance

Results III

Map of CDOC partner frailty concordance
Frailty Risk Categories Concordance

Result IV

Conclusion:
23% increased risk of intermediate or high frailty risk in one partner when the other is also categorized as intermediate or high frailty risk.
Next steps

• Validation of frailty risk algorithms
  • Different theories on measurement of frailty risk

• Expand algorithms beyond hospital-based administrative data
  • Include disease specific and other health care services

• Employ longitudinal study design
  • Co-evolution of frailty in couples over time
Policy Implications
Summary

• Majority of community-dwelling older couples (CDOC) were not hospitalized in a two-year period

• Female spouses are younger and have less hospitalization than males' spouses within each frailty risk category

• Frailty risk categories are more informative than frailty risk scores in quantifying concordance among CDOC

• If one partner has frailty, their partner is more likely to have frailty
Policy Implications

• Aging in place, together, is important for many older couples
  • Without proper supports health of a sicker spouse can have negative impacts on health of the other spouse

• Impact on frailty has important implications for non-frail spouses
  • Provides a window of opportunity to intervene

• More research is needed to understand the dynamic over time
  • Especially on factors that prevent/mitigate negative health outcomes
Thank you!

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