Cancer in the Oldest Old

An Exploratory Study

with examples from prostate cancer

New Hampshire and Norway

Judy Rees, MD, PhD, NHSCR
<table>
<thead>
<tr>
<th></th>
<th>NH</th>
<th>Norway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>1.3m</td>
<td>4.6m</td>
</tr>
<tr>
<td>Proportion caucasian</td>
<td>&gt;96%</td>
<td>&gt;96%</td>
</tr>
<tr>
<td>Life expectancy - birth</td>
<td>76/81</td>
<td>78/83</td>
</tr>
<tr>
<td>(M/F) - age 80</td>
<td>84/90</td>
<td>86/92</td>
</tr>
<tr>
<td>Healthcare</td>
<td>private</td>
<td>socialized</td>
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Eurobarometer survey 1993

"Which of the following ways of describing people aged 60+ is the one you prefer to be used?"

YES - "Senior citizens"

"Older people"

NO – "Golden Oldies"
Why study 80+?

Increasing in numbers, highest cancer rates

Maybe They are different

MDs see them as different

Often 80+ excluded from research

Expectations may be different - what is a good outcome?
80+ cancer rates & case counts

NH rate/100,000/yr

NH cases

- Male
- Female
Age-specific incidence (all cancers)

NH rates are significantly higher ★ than Norway (p<0.05) except 80+ males
Prostate Cancer

PSA testing?
What challenges do researchers face because of data quality in 80+?
1) Basis for Diagnosis
Basis for diagnosis – all cancers

New Hampshire

Norway
Basis for diagnosis - prostate cancer

New Hampshire

Norway

Unknown
Other
DCO
Microscopic
2) Death Certificate Only (DCO)
3) Clinical diagnosis or imaging only
Clinical diagnosis or imaging

New Hampshire

Norway

Breast  Prostate  Lung  Brain  Pancreas

<65  65-79  80+

Norway
4) Unknown stage
Unknown stage (NH)
Stage – prostate cancer

New Hampshire

Norway
Compare with basis for diagnosis

New Hampshire

Norway
5) Unknown surgery
Prostate: surgical treatment
Norway
6) Missing stage ≠ Missing surgery
7) Survival
Survival – prostate all stages

1 year

3 years
8) Stage, unknown stage & survival
3yr survival - prostate cancers

Local

Regional

Distant

Unknown stage

NH

Norway
3yr survival - prostate cancers

Local

Regional

Distant

Unknown stage

NH

Norway
9) Is "missing stage" in 80+ a heterogeneous category?
Conclusions: 80+

Impressive quantities of missing data

Missing data don't mean the same thing in different registries, different clinical settings

Difficult to interpret & study

Those with missing stage probably heterogeneous, and have poor outcomes

Need to think about how to report and study 80+ age group when missing data substantial
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