Do patients receive 100mSv+ from diagnostic scanning?
Where are we getting dose information from?

• ACR
• National Databases
• NCRP/ICRP
• Individual Publications
What are impediments to having a more complete picture of patient dose?

- Lack of tracking across institutions
- Lack of tracking across time
- Lack of tracking across modalities
What are impediments to having a more complete picture of patient dose?

- Lack of agreement on danger level
- Incomplete metrics in some modalities
Recent work filling in some knowledge gaps

• 488 CT; 2.5 M Patients; 4.8 M scans
Why CT only?

• Because it’s there
Do patients receive 100mSv+ from diagnostic scanning?

<table>
<thead>
<tr>
<th>Institution</th>
<th>Total number of patients with CED $\geq$ 100 mSv (%)</th>
<th>Maximum CED mSv</th>
<th>Minimum days needed to get 100 mSv</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8952 (3.4%)</td>
<td>1185</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>5888 (1.4%)</td>
<td>785.7</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>12,198 (1.5%)</td>
<td>864.7</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>6369 (0.64%)</td>
<td>800.3</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33,407 (1.33%)</strong></td>
<td><strong>-</strong></td>
<td><strong>-</strong></td>
</tr>
</tbody>
</table>
Dose optimization is not just adjusting knobs

- Extensive knob knowledge
  - mA, kV, modulation, etc.
  - Easy direct changes
- Little focus beyond
  - Systemic changes
  - More difficult
A brief note on civility
Thank you for your attention!

• Please send any feedback to wfsensak@gmail.com