Prognostication for Older Adults: Why and How?

Lindsey Yourman, MD
Eric Widera, MD
Sei Lee, MD
Mara Schonberg, MD, MPH
Alex Smith, MD, MPH
Written Disclosure

• No one involved in the planning or presentation of this activity has any relevant financial relationships with a commercial interest to disclose
Learning Objectives

At the end of this activity, attendees will have the ability to:

1. Identify clinical decisions where prognosis is critical
2. Describe how clinicians prognosticate today
3. Use eprognosis to formulate prognosis for a patient
4. Apply a prognostic estimate to a clinical situation
What is Prognostication?

• The Two parts:

  1. **Formulating** the *probability* of a person developing a particular *outcome* over a specific period of time (prognosis).

  2. **Communicating** the prognosis with the patient and/or family.
Case: Ms A

• Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, DM2, dependence on others for shopping, and difficulty walking a quarter mile.

• Should you recommend that Ms. A have colon cancer screening?
  1. Yes
  2. No
Case Ms. A.

• Should Ms. A.’s prognosis influence your recommendation for colon cancer screening? How?
Finances in the Older Patient With Cognitive Impairment
“He Didn’t Want Me to Take Over”

Eric Widera, MD
Veronika Steenpass, MD
Daniel Marson, JD, PhD
Rebecca Sudore, MD

THE PATIENT’S STORY
Mr L is a 76-year-old retired salesman. He is of Japanese descent and has a history of Alzheimer dementia, transient ischemic attacks, carotid stenosis, type 2 diabetes, hypertension, dyslipidemia, presbycusis, and radiation treatment for parotid carcinoma (4 years ago). He presented as a new patient to a geriatrics primary care clinic accompanied by his daughter. He had been diagnosed with Alzheimer dementia 2 years earlier at a memory disorders clinic and had been taking donepezil, 10 mg and memantine, 10 mg twice a day.

Financial capacity can be defined as the ability to independently manage one’s financial affairs in a manner consistent with personal self-interest. Financial capacity is essential for an individual to function independently in society; however, Alzheimer disease and other progressive dementias eventually lead to a complete loss of financial capacity. Many patients with cognitive impairment and their families seek guidance from their primary care clinician for help with financial impairment, yet most clinicians do not understand their role or know how to help. We review the prevalence and impact of diminished financial capacity in older adults with cognitive impairment. We also articulate the role of the primary care clinician, which includes (1) educating older adult patients...
Why Prognosticate - Hospice
Prognosis Identifies Elders Most Likely to Benefit from Prevention

• Preventative interventions usually have immediate risk with delayed benefits

• Patients with poor prognosis who receive preventative interventions are exposed to the risks with little chance of benefit

• Intervention should be targeted to patients whose life expectancy > time to benefit
Colorectal Cancer Screening

Values indicate the number of CRC deaths prevented per 1000 screened (ARR)

* p < 0.05
Glycemic Control: UKPDS

Microvascular Complications
- Nephropathy (renal failure)
- Retinopathy (photocoagulation)

Usual Care
Avg HbA1c=7.9

Intensive Control
Avg HbA1c=7.0
Clinical Decisions Influenced by Life Expectancy

<table>
<thead>
<tr>
<th>Life Expectancy</th>
<th>Clinical Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4-6 weeks</td>
<td>Methylphenidate over SSRI for depression</td>
</tr>
<tr>
<td>&lt;6 months</td>
<td>Discontinue statins</td>
</tr>
<tr>
<td>&lt;6 months</td>
<td>Refer to hospice</td>
</tr>
<tr>
<td>&lt;1-2 years</td>
<td>Nonoperative management of AAA</td>
</tr>
<tr>
<td>&lt;2-3 years</td>
<td>Tight BP control in diabetes unlikely to prevent stroke, MI</td>
</tr>
<tr>
<td>&lt;10 years</td>
<td>Discontinue colon cancer screening</td>
</tr>
<tr>
<td>&lt;10 years</td>
<td>Discontinue breast cancer screening</td>
</tr>
<tr>
<td>&lt;5 years</td>
<td>Bio-prosthetic heart valve over mechanical</td>
</tr>
<tr>
<td>&lt;9 years</td>
<td>Discontinue tight blood sugar control in diabetes</td>
</tr>
</tbody>
</table>
Prevention- Do no harm

“It is easier to make a well person sick, than it is to make a sick person well.”

-Rebecca Jackson, MD
UCSF Dept of Epidemiology
Objectives

1. Identify clinical decisions where prognosis is critical
2. Describe how clinicians prognosticate today
3. Use eprognosis to formulate prognosis for a patient
4. Apply a prognostic estimate to a clinical situation
Clinician Prognostication Today

- **Not Prepared** -- 57% of 1311 Internists surveyed, inadequately trained in prognostication (Christakis et al., Arch Intern Med 1998)

- **Overestimate Survival** - 343 Internists surveyed, by a factor of 5 in terminally ill patients they referred to a home hospice program (Christakis et al, BMJ 2000)

- **Silent** - 25% withheld prognostic information, 35% intentionally inflated estimates, and only 35% gave their most objective estimate (Christakis et al, BMJ 2000)
Why is Prognostication So Hard?

In general?
Challenges to Prognostication in Older Adults

• Younger patients with cancer:
  – clearer trajectory

• Older adults:
  – Absence of dominant terminal condition
  – age + functional + cognitive + multimorbidity
“The necessity of prognostication is heightened by the *asymmetry in knowledge* that exists between the patient and the physician . . . When patients are sick, their interest in diagnosis and therapy is often *secondary to their interest in prognosis* . . . [A prognosticator has obligations] of *truthfulness, disinterestedness, completeness, accuracy, and empathy*. Patients soliciting or receiving prognoses put their faith and trust in physicians, who have a great *technical and moral responsibility* as a result.”
Medical Student Determined to Prognosticate
Not just Psychological, but Logistical Barriers, too!
Lack of Prognostication Resources

• “I want to compile a resource of good prognosis evidence that clinicians can quickly access.”

• “You will publish a paper.”
Prognostic Indices for Older Adults
A Systematic Review

Lindsey C. Yourman, MD
Sei J. Lee, MD, MAS
Mara A. Schonberg, MD, MPH
Eric W. Widera, MD
Alexander K. Smith, MD, MS, MPH

Context  To better target services to those who may benefit, many guidelines recommend incorporating life expectancy into clinical decisions.

Objective  To assess the quality and limitations of prognostic indices for mortality in older adults through systematic review.

Data Sources  We searched MEDLINE, EMBASE, Cochrane, and Google Scholar from their inception through November 2011.

- Systematic review
- Identified 16 validated non-disease specific prognostic indices for older adults
- Evaluated quality of published indices (Moderate, Good, Very Good, or Excellent)
What is a Prognostic Index?

• **Many different names** (clinical prediction rules, decision rules, staging systems..., eg. CHADSVASC2, NYHA for CHF)

• **Definition:**
  - A clinical tool that quantifies the contributions that various components of the history, physical exam, and laboratory findings make towards a prognosis

• **Combining physician estimates with prognostic indices** results in more accurate estimates (Christakis et al., Arch Intern Med 1998; Teno et al., JAGS 2000)

McGinn, JAMA, 2000
Systematic Review Findings

• **Functional Status** most important predictor

• A few indices were classified as “Very Good”
  – Accurate, validated in large and diverse settings

• None could be graded as “Excellent”
  – Few were validated by independent investigators, non studied patient outcomes
Systematic Review Conclusions

• Since previous studies suggest
  – Prognostic indices plus clinical judgment leads to more accurate estimates than either alone

• We recommend cautious use of highest quality indices with
  – Clinical factors not captured in index
  – Patient preferences

Christakis & Iwashyna, *Arch Intern Med* 1998
Case: Ms A

• Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, DM2, dependence on others for shopping, and difficulty walking a quarter mile.

• Should you recommend that Ms. A have colon cancer screening?

1. Yes
2. No
USPSTF Guidelines

• Age 50-75: Routine screening
• Age 75-85: Marginal Benefit, recommend against routine screening
• Age 85+: Recommend against screening
• USPSTF also recommends clinicians target screening to healthier patients with good prognosis
Case A

• Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, dependence on others for shopping, and difficulty walking a quarter mile.

  What is your best guess of 9 year mortality risk?

  1. 15%
  2. 40%
  3. 60%
  4. 75%
  5. 90%
<table>
<thead>
<tr>
<th>Source</th>
<th>Index</th>
<th>Development Cohort</th>
<th>Validation Cohort</th>
<th>Discrimination (95% CI)</th>
<th>Predicted Mortality (95% CI), %</th>
<th>Observed Mortality (95% CI), %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gagne et al. 2011</td>
<td>1-y index for low-income elders</td>
<td>n = 120,679</td>
<td>n = 123,856</td>
<td>Validation</td>
<td>&lt;7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average age 80 y</td>
<td>Average age 79 y</td>
<td>C = 0.79 (0.79-0.79)</td>
<td>7-17</td>
<td>12</td>
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<tr>
<td></td>
<td></td>
<td>83% Female</td>
<td>77% Female</td>
<td></td>
<td>&gt;17</td>
<td>29</td>
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<tr>
<td></td>
<td></td>
<td>29% Hospitalized in last year</td>
<td>27% Hospitalized in last year</td>
<td>Validation</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>9% Nursing home residents</td>
<td>9% Nursing home residents</td>
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<td></td>
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<td>Median 18 distinct ICD-9 diagnoses</td>
<td>Median 12 distinct ICD-9 diagnoses</td>
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<td></td>
<td></td>
<td>8% 1-y Mortality</td>
<td>8% 1-y Mortality</td>
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</tr>
<tr>
<td>Mazzaglia et al. 2007</td>
<td>15-mo index</td>
<td>n = 2,470</td>
<td>n = 2,926</td>
<td>Derivation</td>
<td>0 (0.04-1.1) 0 (0.03-1.1)</td>
<td>1 (0.1-2.1) 1 (0.2-1.1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean age 75 y</td>
<td>Mean age 75 y</td>
<td>C = 0.75 (0.72-0.78)</td>
<td>1 (0.4-3.6) 1 (0.2-3.6)</td>
<td>1 (0.2-3.6) 1 (0.2-3.6)</td>
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<tr>
<td></td>
<td></td>
<td>56% Female</td>
<td>59% Female</td>
<td>Validation</td>
<td>10 (7.9-11.5) 8 (6.7-9.8)</td>
<td>8 (6.7-9.8) 8 (6.7-9.8)</td>
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<tr>
<td></td>
<td></td>
<td>5% 15-mo Mortality</td>
<td>4% 15-mo Mortality</td>
<td>C = 0.75 (0.73-0.78)</td>
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<tr>
<td>Carey et al. 2004</td>
<td>2-y index</td>
<td>n = 4,516</td>
<td>n = 2,977</td>
<td>Derivation</td>
<td>3</td>
<td>5</td>
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<tr>
<td></td>
<td></td>
<td>Mean age 78 y</td>
<td>Mean age 78 y</td>
<td>C = 0.76 (0.73-0.78)</td>
<td>11</td>
<td>12</td>
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<td></td>
<td></td>
<td>61% Female</td>
<td>61% Female</td>
<td>Validation</td>
<td>34</td>
<td>36</td>
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<tr>
<td></td>
<td></td>
<td>84% White</td>
<td>73% White</td>
<td>C = 0.74 (0.73-0.74)</td>
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<td></td>
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<td>13% Dependent in ≥1 ADL</td>
<td>17% Dependent in ≥1 ADL</td>
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<td></td>
<td></td>
<td>28% Difficulty with stairs</td>
<td>41% Difficulty with stairs</td>
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<td></td>
<td></td>
<td>13% Diabetes</td>
<td>14% Diabetes</td>
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<td></td>
<td>14% Cancer</td>
<td>13% Cancer</td>
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<td></td>
<td></td>
<td>31% Heart disease</td>
<td>32% Heart disease</td>
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<td></td>
<td></td>
<td>10% Mortality</td>
<td>12% 2-y Mortality</td>
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<tr>
<td>Carey et al. 2008</td>
<td>3-y index for nursing-home eligible elders</td>
<td>n = 2,232</td>
<td>n = 1,667</td>
<td>Derivation</td>
<td>21</td>
<td>18</td>
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<td></td>
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<td>Mean age 79 y</td>
<td>Mean age 79 y</td>
<td>C = 0.66 (0.64-0.68)</td>
<td>36</td>
<td>35</td>
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<td></td>
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<td>66% Female</td>
<td>76% Female</td>
<td>Validation</td>
<td>54</td>
<td>55</td>
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<td></td>
<td></td>
<td>62% Difficulty bathing on own</td>
<td>72% Difficulty bathing on own</td>
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<td></td>
<td></td>
<td>23% Diabetes</td>
<td>27% Diabetes</td>
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<td></td>
<td></td>
<td>23% Coronary artery disease</td>
<td>27% Coronary artery disease</td>
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<td></td>
<td></td>
<td>37% 3-y Mortality</td>
<td>36% 3-y Mortality</td>
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<tr>
<td>Lee et al. 2006</td>
<td>4-y index</td>
<td>n = 11,701</td>
<td>n = 8,009</td>
<td>Derivation</td>
<td>&lt;5</td>
<td>&lt;5</td>
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<tr>
<td></td>
<td></td>
<td>Mean age 67 y</td>
<td>Mean age 67 y</td>
<td>C = 0.84 (0.82-0.86)</td>
<td>4.9</td>
<td>6.9</td>
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<tr>
<td></td>
<td></td>
<td>57% Female</td>
<td>57% Female</td>
<td>Validation</td>
<td>12-19</td>
<td>15-20</td>
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<tr>
<td></td>
<td></td>
<td>81% White</td>
<td>71% White</td>
<td>C = 0.82 (0.81-0.84)</td>
<td>22-24</td>
<td>20-28</td>
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<td></td>
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<td>15% Diabetes</td>
<td>16% Diabetes</td>
<td>Validation</td>
<td>43-46</td>
<td>44-46</td>
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<tr>
<td></td>
<td></td>
<td>15% Cancer</td>
<td>11% Cancer</td>
<td>Validation</td>
<td>54-67</td>
<td>59-64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17% Coronary artery disease</td>
<td>19% Coronary artery disease</td>
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<td></td>
<td></td>
<td>12% 4-y Mortality</td>
<td>13% 4-y Mortality</td>
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<tr>
<td>Schonberg et al. 2009</td>
<td>5-y index</td>
<td>n = 16,077</td>
<td>n = 8,038</td>
<td>Validation</td>
<td>2 (1-4)</td>
<td>3 (1-6)</td>
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<td></td>
<td></td>
<td>27% Age &gt;80 y</td>
<td>Validation cohort reported as similar to development</td>
<td>C = 0.75 (0.71-0.79)</td>
<td>8 (6-9)</td>
<td>8 (6.9)</td>
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<tr>
<td></td>
<td></td>
<td>60% Female</td>
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<td></td>
<td></td>
<td>85% White</td>
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<td></td>
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<td>18% Dependent in at least 1 ADL or IADL</td>
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<td></td>
<td></td>
<td>15% Diabetes</td>
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<tr>
<td></td>
<td></td>
<td>15% Cancer</td>
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<td>11% Coronary artery disease</td>
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<td>17% 5-y Mortality</td>
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</tbody>
</table>
Table 4. Potential Sources of Bias for 16 Validated General Prognostic Indices

<table>
<thead>
<tr>
<th>Index</th>
<th>Sample Described (Participation)a</th>
<th>Prognostic Variables Definedb</th>
<th>Blinded Measurementc</th>
<th>Community-Dwelling Patients</th>
<th>Potential Predictors Complete d</th>
<th>Mortality Outcome Complete e</th>
<th>Conceptual Model, Stability Testedf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gagne et al.56 2011</td>
<td>Partly; race/ethnicity not described (participation not optional in this administrative data set)</td>
<td>Partly; ICD-9 codes have limited reproducibility</td>
<td>Yes</td>
<td>NR</td>
<td>NR</td>
<td>Partly; stability not tested</td>
<td></td>
</tr>
<tr>
<td>Mazzaglia et al.52 2007</td>
<td>Partly; race/ethnicity not described; Italian sample (participants not compared with nonparticipants)</td>
<td>Partly; “inadequacy of income” not well described</td>
<td>Yes</td>
<td>NR</td>
<td>99%</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Carey et al.46 2004</td>
<td>Partly; no comparison of respondents with nonrespondents</td>
<td>Yes</td>
<td>Yes</td>
<td>99.3%</td>
<td>NR</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Carey et al.45 2008</td>
<td>Yes (participation not optional in this administrative data set)</td>
<td>Yes</td>
<td>Yes</td>
<td>92%</td>
<td>NR</td>
<td>No; not conceptually based; stability not tested</td>
<td></td>
</tr>
<tr>
<td>Lee et al.39 2006</td>
<td>Partly; participants not compared with nonparticipants (81% participation rate)</td>
<td>Yes</td>
<td>Yes</td>
<td>NR</td>
<td>98%</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Schonberg et al.55 2009</td>
<td>Partly; participants not compared with nonparticipants (74% participation rate)</td>
<td>Yes</td>
<td>Yes</td>
<td>95%</td>
<td>97%</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Login to vpn@UCSF

MyAccess ID: I have way too many IDs
Password: •••••

Forgot your MyAccess ID or Password?
Getting a VPN account.

VPN Quickstart Guide

By logging in, you agree to abide by UCSF's Electronic Communications policy.

Help is available via web, email, and phone (415) 514-4100.

For your protection vpn@ucsf automatically closes the VPN session after one hour of inactivity.

External validation of an index to predict up to 9-year mortality of community-dwelling adults aged 65 and older.
Schonberg MA, Davis RB, McCarthy EP, Marcantonio ER.
PMID: 21797837 [PubMed - indexed for MEDLINE]
Related citations

Index to predict 5-year mortality of community-dwelling adults aged 65 and older using data from the National Health Interview Survey.
Schonberg MA, Davis RB, McCarthy EP, Marcantonio ER.
Related citations
1. Age:
   - 65-69: 0 points
   - 70-74: 1 point
   - 75-79: 3 points
   - 80-84: 5 points
   - 85+: 7 points
   - Male: 3 points

2. Sex: Female: 0 points

3. Weight:
   - BMI: <25 2 points
   - Height:
     - \(703 \times \text{weight in pounds/height in inches}^2\)
   - Body Mass Index (BMI) =

4. Would you say your health in general is:
   - Excellent/Very Good: 0 points
   - Good: 1 point
   - Fair/Poor: 2 points

5. Have you ever been told by a doctor or health professional that you had:
   a. Emphysema/Chronic Bronchitis? No: 0 points Yes: 2 points
   b. A cancer? (do not include skin cancer unless it was melanoma)
      No: 0 points Yes: 2 points
   c. Diabetes (include borderline diabetes)
      No: 0 points Yes: 2 points

6. Because of a physical, mental, or emotional problem, do you need the help of other persons in handling routine needs such as everyday household chores, doing necessary business, shopping, or getting around for other purposes?
   No: 0 points Yes: 2 points

7. By yourself, and without using any special equipment, how difficult is it for you to walk a quarter of a mile about 3 city blocks?
   a. Not at all difficult: 0 points
   b. A little difficult to very difficult: 3 points
   c. Can’t do at all/do not do: 3 points

8. Which best describes your cigarette use?
   a. Never smoked (Less than 100 cigarettes in your entire life): 0 points
   b. Former smoker: 1 point
   c. Current smoker (smoke some days or every day): 3 points

9. During the past 12 months, how many times were you hospitalized overnight?
   None: 0 points
   Once: 1 point
   Twice or more: 3 points
Or, just take out your handheld

<table>
<thead>
<tr>
<th>Home</th>
<th>Information</th>
<th>Bubbleview</th>
</tr>
</thead>
</table>

**Home**

1. Where is the patient

   -- select --
Objectives

1. Identify clinical decisions where prognosis is critical
2. Describe how clinicians prognosticate today
3. Use eprognosis to formulate prognosis for a patient
4. Apply a prognostic estimate to a clinical situation
Clinic Chart

• Ms. A is a 68 year old clinic patient
• **HISTORY**
  • **PMH:** congestive heart failure, COPD, DM2, has been hospitalized twice over this last year for COPD.
  • **Allergies:** none, **Meds:** see list
  • **SH:** describes health as fair. Former smoker. dependence on others for shopping, difficulty walking a quarter mile, needs help with finances
• **PHYSICAL EXAM**
  • Has difficulty pushing a chair across the room
Ms. A

- Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, DM2, dependence on others for shopping, and difficulty walking a quarter mile.
Getting a mammogram is more likely to harm this woman than to help. Thus, getting a mammogram would generally not be recommended.
HARMS

• Getting a mammogram may be uncomfortable or cause anxiety.

• Some women who get a mammogram will experience a false alarm. These women are told their mammogram is abnormal but additional tests do not show breast cancer. Some women find this experience causes anxiety.

• Additional tests include:
  – Additional mammograms
  – Breast ultrasounds
  – Breast biopsies

• A mammogram may find a breast cancer that would never have caused problems or symptoms in a woman’s lifetime.

• Getting a mammogram may increase the number of tests and treatments a woman gets in her lifetime. Some of the tests and treatments may cause pain, bleeding, fatigue, infection, and other symptoms.
Getting a mammogram is more likely to harm this woman than to help. Thus, getting a mammogram would generally not be recommended.
BENEFITS

- A mammogram is more likely to find breast cancer when it is small, improving a woman’s chances of only needing a minor surgery.

- Getting a mammogram may lower a woman’s chances of dying from breast cancer.

- Getting a mammogram may help a woman feel good about herself and her health.
Getting a mammogram is more likely to harm this woman than to help. Thus, getting a mammogram would generally not be recommended.
What is Prognostication?

• The Two parts:
  1. Estimating the probability of an individual developing a particular outcome over a specific period of time (prognosis).
  2. **Communicating** the prognosis with the patient and/or family.
Opened ePrognosis to Public

• Considerable media attention
  – 6 NYT stories
  – USA Today
  – The Daily Beast
  – AARP blog
  – Nat’l Academy of Sciences

• First week: over half a million pageviews
• First two months: nearly three quarters of a million
Reaction

“…this provides a useful tool to help with the dialogue on discussing various screening modalities and to give the patient an idea about life expectancy.”

VS.

“The punctilious quantification of the amorphous”

Faith Fitzgerald
Questions, Concerns, Ideas

• When and how should we communicate this information to patients?
SPIKES- A Tool for Communication

S Setting up the Interview
P Assess Perception
I Obtain Invitation
K Impart Knowledge
E Address Emotions
S Summarize and Strategize
S—SETTING UP the Interview

• Quiet, undistracted environment
• Include family members when possible
  – ask patient if anyone else should be present
  – postpone the discussion if necessary

“At our next visit, I would like to talk about your health and the ways we can go forward with your care. Is there someone who you think should be at this meeting?”
P—Assessing the Patient's PERCEPTION

• Ask open-ended questions of the patients/families understanding about their medical issues and prognosis

“*You’ve been through a lot this year. How do you think your health is doing now?*”
I—Obtaining the Patient's INVITATION

• Inquire about preferences for information sharing

“Some patients feel it is important to know the all the details of their illness, prognosis, and treatment options; others don’t and want others to make decisions for them. How do you feel?”

Fried et al. JAGS 2003
I—Obtaining the Patient's INVITATION

• Study of 65 older African American, Chinese, Latino, and white disabled elders in SF
  – 2/3 wanted to know 5 year prognosis
  – 3/4 wanted to know 1 year prognosis

• Offer to discuss prognosis with all very elderly or limited life expectancy

Ahalt JGIM 2012; Smith NEJM 2011; Smith NEJM 2013
K—Giving KNOWLEDGE and Information to the Patient

• Speak simply and slowly
• Avoid jargon
• Use pictures to explain (epronosis)
• Periodically check for understanding
E—Addressing the Patient's EMOTIONS with Empathic Responses

• Name the emotion to yourself- if you are not sure what you are observing – ask

  “You seem a little surprised by this news. Is it different from what you were expecting?”

• Express empathy with the emotion

  “I can understand that this news is a little unsettling when you have been doing everything you can to live longer.”
S—STRATEGY and SUMMARY

• Review strategies to ensure goals are met

  – “Considering how important being pain free and remaining at home appears to be for you, I recommend that we...”

• Establish follow-up
Main Points

1. Identify clinical decisions where prognosis is critical
   - Life-Planning, Hospice, Preventative Care

2. Describe how clinicians prognosticate today
   - Unequipped to formulate, often don’t communicate

2. Use web-based tools to estimate prognosis
   - supplement, not replace, clinical judgment

4. Effectively communicate prognosis
   - SPIKES, research, listen
Thank You

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• Mom
• Dad
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Lag time to benefit

Lag Time to Benefit from Colon Cancer Screening

0__________ 4yrs

If Mrs. A.’s life expectancy (eg. 7 yrs) is > lag-time to benefit
0__________ 7yrs = likely to benefit

If Mrs. A.’s life expectancy (eg. 2 yrs) is < lag-time to benefit,
0______2yrs = unlikely to benefit
Immediate harms

Lag Time to Benefit from Colon Cancer Screening

0___4 yrs

If Mrs. A.’s life expectancy (eg. 7 yrs), is > lag-time to benefit:

0______7 yrs = harm, but survives to benefit

In contrast, if Mrs. A.’s life expectancy is 2 more years,:

0______2 yrs = harm, but doesn’t survive to benefit
Prognostic Indices
Each bubble represents a prognosis calculator. Click on a bubble to view the calculator.
Ms. A

- Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, DM2, dependence on others for shopping, and difficulty walking a quarter mile.
Given 100 people with similar answers to the index, 75 will die and 25 will survive over the next 9 years.

Should she get colon cancer screening?

1. Yes
2. No
Clinical Judgment

OPTION 2
Clinical Judgment
Shortcomings of Clinical Predictions

• Tend to overestimate patient survival by a factor of between 3 and 5.
• Tend to be more accurate for very short-term prognosis than long-term prognosis.
• Influenced by relationships
  – The length of doctor patient relationships increases the odds of making an erroneous prediction.
Life Tables
US Life Tables

Life table for females: United States, 2007

Life Expectancy (years) vs Age (years)
Case: Ms A

• Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, dependence on others for shopping, and difficulty walking a quarter mile.
Life Expectancy For Mrs A

Life table for females: United States, 2007

Age (years)

Life Expectancy (years)
Case: Ms A

• Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, dependence on others for shopping, and difficulty walking a quarter mile.

• Should you recommend that Ms. A have colon cancer screening?
Case: Ms A

• Ms. A is a 68 year old clinic patient with congestive heart failure, COPD, dependence on others for shopping, and difficulty walking a quarter mile.

• Should you recommend that Ms. A have colon cancer screening?
  – Just based on age = yes
Great Variation in Life Expectancy for People of Similar Ages

Life Expectancy for Women

Walter LC. JAMA 2001;285:2750-56
How to determine who is in the bottom or top quartile?

Clinical Judgment
Use Functional Status

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<th>Independent</th>
<th>Mobility disabled</th>
<th>ADL disabled</th>
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## Use Functional Status

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Use Comorbid Conditions

- CHF (Class III, IV)
- ESRD
- Dementia
- Severe COPD (home O2)
- Cancer
Why Prognosticate

Patients (some) want to talk about it
  -medical care, life planning

Benefit eligibility
  -hospice!

Target preventative care
  -avoid overtreatment, and undertreatment