"Meeting Patients Where They Are": Tips on Formulating and Communicating Prognosis

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Meet Oscar

[Image of a cat]

Dosa DM. NEJM, 2007

A Vast Topic: Today's (Modest) Goals

1. Communicate prognostic information to patients and families using an “ASK-TELL-ASK” framework
2. Formulate prognoses by combining experience, expert opinion, and predictions from disease-specific and general tools
A Central Theme…

“…decision making at the end of life is perhaps the most personalized of all decision making in medicine. Although well-intended and carefully constructed tools and awareness of the natural history of disease are helpful, it is the primacy of the patient-physician interface that must prevail. Until these [predictive] questions are fully addressed, it is best to avoid adopting an imprecise method, instead continuing to embrace the individualized decision making process guided by physician judgment that incorporates all patient care considerations.”

Yancy CW. JAMA, 2008.

Communicating Prognosis: Meet Jim

77 y/o retired plumber hospitalized w/ PNA, weakness
- Stage IV colorectal cancer, mild cognitive impairment
- Disease progression despite best therapy, Full Code
- Functional decline, dependent, growing caregiver burden
- Son shares: “We’re kind of straight shooters, doc. What are we talking…uh…how much time does dad have?”

Question: What would you do?
A. Defer the discussion until you can talk with the oncologist
B. Gently share his probable life expectancy, attend to emotion
C. Ask the patient-family what they already know
D. Explore the son’s request further

Learning the Hard Way
Why Prognosticate?

To provide a framework for informed decisions
- Guides appropriate screening, testing and tx
- Averts unwanted or burdensome therapies
- Alerts need for added support (e.g., PC/ hospice)

To support life preparation/planning in serious illness
- Work and travel
- Caregiving, financial planning
- Life closure, relationship mending – and hope!


“As a result of a failure to prognosticate, let alone prognosticate accurately, patients may die deaths they deplore in locations they despise. They may seek noxious chemotherapy rather than good palliative care, enroll in clinical trials of experimental therapy that offer more benefit to researchers than to themselves, or reassure loved ones that it is not yet time to pay a visit – only to lapse into a coma before having a chance to say good-bye.”

– Nicholas Christakis MD PhD

What We Know...

Many, but not all, patients want prognostic information:
- Info needs vary and difficult to predict
- Influenced by personal beliefs, culture, coping, other factors
- Needs change with time and illness progression

Prognostic information changes decisions (examples):
- SUPPORT (increase directives, less resuscitation)
- CPR outcomes to patients-families → less resuscitation
- Education re: natural course dementia → increase comfort care

Discussion of Prognosis in the ICU Directs Medical Care in the Last Week of Life

| Table 3. Medical Care Received in the Last Week of Life by End-of-Life Discussion |
|---------------------------------|-----------------|-----------------|-----------------|
|                                 | Total (N=230)   | End-of-Life Discussion | Adjusted OR (95% Confidence Interval) | P value |
| Medical care received in last 5 days of life | Yes  | No  | Yes  | No  |
|                                              | 332  | 123  | 109  | 93  |
| Oxygenation                                | 31  (9.3) | 5  (4.1) | 26  (12.4) | 0.36 (0.14-0.94) | .02 |
| Ventilation                                | 25  (7.5) | 2  (1.5) | 23  (11.3) | 0.29 (0.08-0.93) | .02 |
| Suction                                    | 48  (14.5) | 10  (8.0) | 38  (18.0) | 0.16 (0.03-0.93) | .02 |
| Feeding                                     | 25  (7.5) | 11  (8.5) | 14  (6.8) | 0.38 (0.13-1.03) | .06 |
| Discontinue mechanical ventilation          | 173  (52.3) | 60  (46.0) | 113  (53.5) | 1.60 (1.04-2.45) | .03 |


What Bereaved Families Teach Us

- Ambivalence re: how much info (able to understand and cope with)
- Family wants different info for themselves vs the patient
- Families need guidance interpreting what physicians communicate
- Families need help understanding treatment aims given prognosis
- Families feel overwhelmed and poorly prepared to make choices

Russ AJ et al. Cult Med Psychiatry, 2005

Uncertainty: Why Surrogates Want to Know Prognosis

- Interviews of 179 surrogates of ICU patients
- Most (87%) surrogates wanted MDs to discuss an uncertain prognosis. Reasons:
  - Prognostic uncertainty is “unavoidable”
  - MDs only source for prognostic info
  - Sharing uncertainty leaves room for hope, increases trust
  - Signals a need to prepare for possible bereavement
- A few (12%) thought prognosis should be avoided. (Reason: emotional distress if “wrong”)

What We Also Know…

We’re lousy prognosticators

- An inherently inexact science ("art")
- Complex physiologic and emotional phenomena
- Both patients/clinicians tend toward overestimation:
  - CHF patients overestimate by 30% (Allen LA et al. JAMA, 2008)
  - MDs overestimate x 5 @ hospice admit (Christakis, BMJ, 2000)

We frequently mess up these conversations:

- “Realism” – stark, uninvited delivery w/o inquiry or compassion
- “Optimism” – false hope leading to poor decisions and distrust
- “Avoidance” – missed opportunity to inform care, evasive


Communicating Prognosis

"There's no easy way I can tell you this, so I'm sending you to someone else..."

Preparation

- Get your facts in order
  - Review chart, clinical data; literature, tools
  - Estimate typical survival (w/ and w/o treatment)
  - Understand outliers in both directions
- Talk to consultants – seek consensus
- Invite key people to the conversation
  - Loved ones wanted by patient
  - Key clinicians; both expertise and relationship
- Protect time and patient-family privacy
- Practice what you might say; center yourself
**Recommended Framework**

**ASK**
- Whether they want to talk about prognosis
- About what they already know

**TELL**
- Desired information, titrate in small amounts
- Using simple straightforward language

**ASK**
- For their understanding of what was said
- For questions, reassure continued support


**“How much do you want to know?”**

Opening inquiry (examples):

“How much do you want to know about the likely course of this illness?”

“Some people want lots of details, some want the big picture, and others prefer that I talk to their family. What would be best for you?”

Anticipate one of three responses:
- They want information
- They don’t want information
- They’re ambivalent: they want, but don’t want info simultaneously


**For Patients Who Want Information**

<table>
<thead>
<tr>
<th>Step</th>
<th>Example Phrases</th>
</tr>
</thead>
</table>
| 1. Negotiate the content of the discussion | “What kind of information do you want about the future?”
- If stuck, consider: “Some people want statistics – say, the average time a person might live. Others prefer best or worst case scenarios. Or sometimes people are thinking about a special event in the future. Does one of these options seem helpful?” |
| 2. Provide the desired information | The studies of patients with advanced colon cancer show that half of patients have died by 2 years, and nearly all by 5 years. I think you’ll be able to attend your daughter’s graduation” |
| 3. Acknowledge the patient’s family’s reactions to the news explicitly | Initial silence often helpful
- If shock: “It looks like that news was not what you were expecting”
- If sadness: “I can see this information is upsetting”
- If unclear emotional response: “Tell me what you’re thinking” |
| 4. Check for understanding | “Tell me what you’re taking away from this discussion.”
- “Tell me what you will tell John about our conversation?” |

For Patients Who Don’t Want Information

<table>
<thead>
<tr>
<th>Step</th>
<th>Example Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Elicit and understand why the patient does not want to know</td>
<td>&quot;If you could help me understand why you’d rather not talk about prognosis, it will help me to know more about how to discuss other serious issues.”</td>
</tr>
<tr>
<td>2. Acknowledge the patient’s concerns</td>
<td>&quot;I hear you. You’re worried that any bad news would just deepen your sorrow. Can we talk more about this sadness?&quot;</td>
</tr>
<tr>
<td>3. Ask for permission to revisit the topic</td>
<td>&quot;My experience is that people’s interest in prognosis can change over time. If you want more information in the future, just let me know. I’ll check in with you periodically, too. OK?”</td>
</tr>
<tr>
<td>4. Assess whether prognosis might change decision (in private)</td>
<td>Key Question: Does the patient need the information now? Impact? If no: follow the patient’s current direction If yes: renegotiate for limited disclosure and/or clarify whether another person (e.g., proxy) needs urgent info.</td>
</tr>
</tbody>
</table>

Consider Other Phrases for “Less Ready” Patients

Explore “prognostic awareness”:
- “What’s your sense of how you’re doing?”
- “What is your sense of what is happening now?”
- “What is your sense of what the future holds?”
- “What has your team told you about your illness and what to expect?”
- “How worried are you about your illness? What worries you most?”

Cultivate “prognostic awareness”:
- “Have you thought about what it might be like if you get sicker?”
- “I wonder if we should think together about what it would be like if you were to get sicker? It might be good to prepare....”

A Few Words on “Taking Away Hope”

Cautious Strategy When Discussing Prognosis

Direct

Cautious

A. Intimate evidence of hope and optimism ("living"
B. Balance of hope and information ("fading"
C. Incremental integration of new information ("growing"
D. Authoritative disclosure ("complete"

Complications: Common Challenges

• “The doctor said mom would live a month. She lived 3 years.”
• “Please don’t tell her – it will take away her hope.”
• “Only the Lord knows these things.”
• “So, doc, tell me the real story...” [in the hallway]
• “My son – an RN – said there are new treatments.”
• “I read on the internet...”
• “One percent chance is better than no chance!”
• “So you’re saying that I should just give up?”

Useful phrases: “Tell me more”, “I hope...”

Shifting Gears: Formulating Prognosis

Meet George

• 80 y/o male w/ ischemic CHF, EF=30%, on best tx
• Also CAD, HTN, CKD and mild dementia
• Hospitalized (CHF) 3 months ago, 2 ER visits
• Labs: Na 131, BUN 40, Hgb 12, Albumin 2.4
• Symptoms: fatigue/weakness, dyspnea (minimal exertion)
• Lives with wife, needs help w/ walking, bathing, dressing

1-year mortality?

a) 10%
b) 30%
c) 60%
d) 90%

Would you be surprised if he died in the next year?

a) Yes
b) No
c) Unsure
End-of-Life Illness Trajectories

Increasing Severity of Disease
"Chronic, Progressive Illness" "Advanced Illness"

Making Predictions: Many Factors

- Disease specific predictors
- Co-morbid illness
- Rate of decline
- Age and gender
- Nutritional status
- Functional status
- Cognitive status
- Symptoms and severity
- Hospital and ER use
- Social support
- Emotional/spiritual factors
- Many others!

Formulation: Two Fundamental Approaches

Clinician Predictions
- Based on experience, instinct
- Primary teams (broad view) + specialist input (disease-specific)
- Biases: overestimation, impacted by relationship-emotion

Prognostic Tools
- Research and actuarial tables, objective data
- General (e.g., functional status) and disease-specific tools
- By setting (e.g., hospital, ICU, nursing home, community)
- Shortcomings: extrapolation to individual, modest accuracy

BOTH contribute to better prognostication
Prognostic Tools

Disease-Specific Tools (examples)
- COPD: BODE Index, COPD Prognostic Index
- CHF: NYHA Classification, Seattle Heart Failure, EFFECT
- ESRD: Hemodialysis Mortality Predictor
- ESLD: MELD, MELD-Na
- Dementia: FAST, Mortality Risk Index, ADEPT

General Tools (examples)
- Functional Status: ECOG, Karnofsky, PPS
- Elderly: Multiple tools across settings (e-Prognosis)
- ICU: APACHE, SOFA, others

Example: Seattle Heart Failure Model
Disease-specific (CHF) predictor, clinical status, therapy, and labs
Predicts 1, 2, and 3 year mortality (George: 12%, 23% and 53%)

EFFECT Heart Failure Mortality Prediction

George 1-Y Mortality = 59%
Cardiovascular Disease: CHF
Hospitalization for moderate to severe symptomatic heart failure NYHA Class III or IV, with ≥3 of the following presentations:

- Age ≥75 years
- Left ventricular ejection fraction ≤30%
- Serum B-type natriuretic peptide ≥500 pg/ml
- Cardiac troponin I >0.4 ng/ml
- C-reactive protein >3.5 mg/l
- Death hospitalization for heart failure or readmission hospitalization in 9 months
- Dependency of 3 or more activities of daily living or need for home care after hospital discharge
- Weight loss of 0.2 kg within 7 months or serum albumin <2.5 g/l
- History of cerebrovascular, somatic or supraventricular arrhythmia, cardiac arrest, cardiovascular resuscitation, or mechanical ventilation
- Systolic blood pressure <120
- Serum creatinine >2 mg/dl or blood urea nitrogen >40 mg/dl,
- Serum sodium <130 mEq/l
- Cardiovascular disease (coronary artery, peripheral vascular, or cerebrovascular disease)
- Other concomitant illness (steroid withdrawal, pancreatitis, chronic obstructive pulmonary disease, cirrhosis, cancer)

However...

"It is often not a single diagnosis that represents the terminal illness of the patient, but the combined effect of several conditions that makes the patient’s condition terminal."

Prognostic Indices for Older Adults
A Systematic Review

### e-Prognosis: Hospital Tools

<table>
<thead>
<tr>
<th>Calculator</th>
<th>Setting and Population</th>
<th>Mortality Time Frame</th>
<th>C-Stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walter</td>
<td>Hospital, at D/C, age ≥ 70</td>
<td>1 Year</td>
<td>0.79</td>
</tr>
<tr>
<td>Levine</td>
<td>Hospital, at D/C, GIM service</td>
<td>1 Year</td>
<td>0.65</td>
</tr>
<tr>
<td>Di Ban</td>
<td>Hospital, at ER admit, age ≥ 75, Italy</td>
<td>1 Year</td>
<td>0.64</td>
</tr>
<tr>
<td>CARING</td>
<td>Hospital, at admit, median age 63</td>
<td>1 Year</td>
<td>0.82</td>
</tr>
<tr>
<td>Inouye</td>
<td>Hospital, at admit, age ≥ 70</td>
<td>1 Year</td>
<td>0.77</td>
</tr>
<tr>
<td>Pilotto</td>
<td>Hospital, at admit, age ≥ 65, Italy</td>
<td>1 Year, 1 M</td>
<td>0.75</td>
</tr>
<tr>
<td>Teno</td>
<td>Hospital, at admit, ICU + GIM, age ≥ 80</td>
<td>1, 2 Year</td>
<td>0.74</td>
</tr>
<tr>
<td>Drame</td>
<td>Hospital, at admit, age ≥ 75, France</td>
<td>2 Year</td>
<td>0.71</td>
</tr>
</tbody>
</table>

### e-Prognosis: Community & Nursing Home

<table>
<thead>
<tr>
<th>Calculator</th>
<th>Setting and Population</th>
<th>Mortality Time Frame</th>
<th>C-Stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mazzaglia</td>
<td>Community-dwelling, age ≥ 65, Italy</td>
<td>15 Month</td>
<td>0.75</td>
</tr>
<tr>
<td>Gagne</td>
<td>Community-dwelling, age ≥ 65</td>
<td>1 Year</td>
<td>0.79</td>
</tr>
<tr>
<td>Carey (2)</td>
<td>Community-dwelling, age ≥ 70, age ≥ 55*</td>
<td>2, 1-3* Year</td>
<td>0.74, 0.69</td>
</tr>
<tr>
<td>Lee</td>
<td>Community-dwelling, age ≥ 50</td>
<td>4, 10 Year</td>
<td>0.82</td>
</tr>
<tr>
<td>Schonberg</td>
<td>Community-dwelling, age ≥ 65</td>
<td>5, 9 Year</td>
<td>0.75</td>
</tr>
<tr>
<td>Lee-Sch</td>
<td>Community-dwelling, age ≥ 50, combined</td>
<td>4, 10 Year</td>
<td>0.75</td>
</tr>
<tr>
<td>Porock</td>
<td>Nursing home (LTC), 51% &gt; age 85</td>
<td>6 Month</td>
<td>0.75</td>
</tr>
<tr>
<td>Mitchell</td>
<td>Nursing home, age ≥ 85</td>
<td>6 Month</td>
<td>0.67</td>
</tr>
<tr>
<td>Flacker (2)</td>
<td>Nursing home, new admit = LTC (&gt;1 y)</td>
<td>1 Year</td>
<td>0.71, 0.71</td>
</tr>
</tbody>
</table>
Walter Index: Predicting 1-Yr Mortality in Hospitalized Elders

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1</td>
</tr>
<tr>
<td>1-4 ADLs</td>
<td>2</td>
</tr>
<tr>
<td>≥ 5 ADLs</td>
<td>4</td>
</tr>
<tr>
<td>CHF</td>
<td>2</td>
</tr>
<tr>
<td>Cancer (local)</td>
<td>3</td>
</tr>
<tr>
<td>Cancer (mets)</td>
<td>8</td>
</tr>
<tr>
<td>Cr &gt;3.0</td>
<td>2</td>
</tr>
<tr>
<td>Albumin 3.0-3.4</td>
<td>1</td>
</tr>
<tr>
<td>Albumin &lt;3.0</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Points Predicted 1-yr Mortality

<table>
<thead>
<tr>
<th>Total Points</th>
<th>Predicted 1-yr Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>13%</td>
</tr>
<tr>
<td>2-3</td>
<td>20%</td>
</tr>
<tr>
<td>4-6</td>
<td>37%</td>
</tr>
<tr>
<td>&gt;6</td>
<td>68%</td>
</tr>
</tbody>
</table>

Derived from 1495 older patients discharged from a general medical service at a tertiary care hospital (mean age = 81 y, 67% female)

George: Summary of Findings

<table>
<thead>
<tr>
<th>Resource or Tool</th>
<th>1-Year Mortality</th>
<th>Hospice Eligible?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referring cardiologist</td>
<td>&quot;It's high&quot; – probably at least 40 or 50%*</td>
<td>&quot;Maybe...but I don't think he's ready.&quot;</td>
</tr>
<tr>
<td>Seattle Heart Failure</td>
<td>16%</td>
<td>No (not w/o more info)</td>
</tr>
<tr>
<td>EFFECT Predictor</td>
<td>59%</td>
<td>Yes</td>
</tr>
<tr>
<td>Walter Index</td>
<td>68%</td>
<td>Yes</td>
</tr>
<tr>
<td>CARING Criteria</td>
<td>&gt;49%</td>
<td>Probable</td>
</tr>
<tr>
<td>Terminal Non-Cancer Diagnosis Screen</td>
<td>Yes, (*) screen for median survival &lt; 6 M</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Formulating Prognosis: Meet Hal

73 y/o inventor hospitalized w/ dyspnea, edema, and UTI
- History of ESRD (on HD x 4 m), DMII, CAD/PVD, prostate CA
- Admitted from SNF, 2 hospitalizations in 3 m (PNA, fall)
- Albumin 2.2, Full Code (prior successful CPR 4 years ago)
- Patient: "I'm falling apart...and not bouncing back now. My kidney doc says I'm OK...but tell me, how much time are we talking?"

Hal's 6-m mortality? (UTI treated, Hemodialysis)
- A. Less than 10% 2%
- B. 30% 5%
- C. 65% 15%
- D. 90% 25%

His chance of surviving an in-hospital arrest?
- a) 2%
- b) 5%
- c) 15%
- d) 25%
"Would You Be Surprised If This Patient Died in the Next Year?"

**ESRD**
- Prognostic efficacy of "Surprise question" in patients on HD
- "No" group: older, ↑ comorbidity, ↓ performance status (vs. "Yes")
- At 1-year: 29% "No" and 11% "Yes" group died.
- Odds ratio (death at 1-y) = 3.5 ("No" vs. "Yes" response p<0.01)

**Cancer**
- Prognostic efficacy of "Surprise question" in breast/lung/colon CA
- "No" group: older, more lung CA, Stage IV disease (vs. "Yes")
- At 1-year: 41% "No" and 3% "Yes" group died (p<0.001).
- Hazard ratio (death at 1-y) = 7.8 ("No" vs. "Yes" response p<0.001)


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**Maintenance Hemodialysis Prognosticator**

- Derived from prospective study of 512 patients at 5 HD clinics
- Incorporates Surprise Question
- Provides 6, 12 and 18 m mortality based on 5 factors: Albumin, Surprise question, age, dementia, peripheral vascular disease
- Model AUC (0.87 for derivation and 0.8 at validation)


[http://touchcalc.com/calculators/sq](http://touchcalc.com/calculators/sq)

Hal's 6-month survival = 36%

---

**Traditional Resuscitation Outcomes**

- About 17% who undergo CPR in the hospital will survive to discharge (little change in 20 years)
- Factors which predict a failure to survive:
  - Sepsis the day prior to the CPR event
  - Serum Cr >1.5 mg/dl
  - Metastatic cancer
  - Dementia and dependent status
- About 7% of all cancer patients survive CPR to discharge (< 2% if a cancer patient in the ICU)
- Prognostic discussions change decisions

GO-FAR: Prediction Tool for Neurologically Intact Resuscitation

<table>
<thead>
<tr>
<th>Risk Group*</th>
<th>GO-FAR Score Category</th>
<th>% Patients in Category</th>
<th>*Neurologically Intact Survivors (% of All Survivors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low (&lt;1%)</td>
<td>≥ 24</td>
<td>9.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Low (1-3%)</td>
<td>14 to 24</td>
<td>19.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Average (3-15%)</td>
<td>-5 to 13</td>
<td>53.6</td>
<td>9.2</td>
</tr>
<tr>
<td>Above Average (&gt;15%)</td>
<td>-15 to -6</td>
<td>18.1</td>
<td>27.8</td>
</tr>
</tbody>
</table>

* Neurologically intact or with minimal deficit

Identifies ~ 28% of patients with ≤2% chance of neurologically intact survival

A Note on Long Term Cognitive Impairment after Critical Illness

- Prospective study of 621 critically ill adults with respiratory failure or shock in MICU or SICU
- Outcomes assessed: in-hospital delirium, global cognition and executive function 3 and 12 months post-discharge
  - Median age = 61 y, only 6% cognitive impairment (CI) baseline
  - Delirium developed in 74% during hospital stay, median = 4 d
  - At 1 year, 24% with CI similar in severity to mild Alzheimer’s disease, and 34% similar to moderate traumatic brain injury
  - Duration of delirium associated w/ 3 and 12 m impairment

Prognostication: Summary

Communication

ASK-TELL-ASK, start: “How much do you want to know?”

IF the patient wants to know prognosis:
• Negotiate content, don’t assume
• Titrate info, consider range (e.g., “weeks to months”)
• Respond to emotion
• Check for understanding, reassure continued support

IF the patient does not want to know prognosis:
• Explore why
• Acknowledge concerns
• Ask permission to revisit
• Privately assess urgency (negotiate limited disclosure)

Prognostication: Summary (continued)

Formulation

Recognize our tendency to overestimate survival
Combine studies, tools, guidelines, and expert opinion to
determine most likely outcomes AND range (outliers):
• Disease-specific tools
• General tools: e.g., multi-morbid tools for elderly (e-Prognosis)
• Studies and guidelines for < 6 m prognosis
• Morbidity tools (e.g., meaningful recovery)
• Seek provider alignment: don’t confuse the patient!

This will never be easy. Be humble, learn, and support each other!

Selected References, Tools and Calculators

• PPS http://web.his.uvic.ca/research/NET/tools/PrognosticTools/index.php
• EFFECT Heart Failure Mortality http://www.ccort.ca/Research/CHFRiskModel.aspx
• COPD Prognostic Index (Briggs A et al. Arch Intern Med., 2008)
• BODE Index (Celli BR et al. NEngl J Med, 2004)
  http://www.qmd.com/calculator-online/respirology/bode-index
• MELD Score http://www.mayoclinic.org/med
• Mortality Risk Index (Mitchell S et al. JAMA, 2004) http://eprognosis.ucsf.edu/
• Walter Index (Walter LC et al. JAMA, 2001) http://eprognosis.ucsf.edu/
• CARING Index (Fischer SM et al. J Pain Sym Mg, 2006) http://eprognosis.ucsf.edu/