Applying Behavioral Economics to End-of-Life Decisions

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The Problem

• Most seriously ill Americans express desires to:
  – Die at home
  – Avoid pain and burdensome interventions near the end of life
  – Minimize burdens on their loved ones

• Yet the opposite commonly happens:
  – Roughly 1 in 2 Americans die in a hospital (1 in 5 in an ICU)
  – Medicare beneficiaries in last month of life: 1 in 2 visits an ER, 1 in 3 is admitted to an ICU, 1 in 5 has inpatient surgery
  – 1 in 3 surrogates who make decisions for patients dying in ICUs develop post-traumatic stress disorder or complicated grief
The **person you love the most** suffers a catastrophic bleed around the brain.

After removing half the skull, and 8 days in the ICU, s/he is requiring less ventilatory support, and occasionally opening eyes to voice.

Two senior physicians agree that the best-case-scenario is a life dependent on artificial nutrition and others for all activities of daily living; s/he will have difficulty speaking and remembering, but will be able to breath unassisted and be aware of people around her/him; aggressive rehab may help regain some movement of limbs.

The physicians offer the alternative of implementing full palliative care.

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1  How sure are you?  10
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A tangential (but illustrative) question

Do you prefer window or aisle seats?

How sure are you?
68% of spouses would make “right” EOL choice

Figure 2. Distribution of surrogate accuracy in individual scenarios. Each column represents the number of scenarios in which the given percentage of surrogates accurately predicted their patient’s treatment preference. The histogram includes 151 scenarios, 2595 surrogate-patient pairs, and 19,526 total paired responses. Adjusted overall accuracy of surrogates, based on meta-analysis, is 68% (95% credible interval, 63-72).

The promise of advance directives

• 43% of older Americans need healthcare decisions made near death
• 70% of these patients can’t participate in decisions when needed

The ‘failure curve’ of AD implementation

Affective Forecasting Errors

1. Targeted too broadly

- Current preferences (when healthy) don’t match future goals (when ill)

Optimism bias

2. Purported benefits seen as attainable without ADs

- Poor completion rates

Present-biased preferences

3. Purported benefits misaligned with patients’ priorities

Focusing Effects

4. Active choice required to receive comfort-promoting care

Default Options

5. ADs not accessible to clinicians or surrogates

- Overly aggressive care selected

- Preferences don’t influence care received

- Difficulty condoning palliative care

6. Surrogates feel guilt & burden from decision-making

Harnessing the Power of Default Options to Improve Health Care

Scott D. Halpern, M.D., Ph.D., Peter A. Ubel, M.D., and David A. Asch, M.D., M.B.A.

When making many types of decisions, people are confronted with default options — the events or conditions that will be set in place if no alternatives are actively chosen. Because default op-
Default options and savings behavior

401(k) participation by tenure at firm

Fraction of employees ever participated

Tenure at company (months)

- Hired before automatic enrollment
- Hired during automatic enrollment
- Hired after automatic enrollment ended

Madrian and Shea (2001)
RCT of default options in real ADs

- 132 patients with advanced emphysema, lung cancer, and other terminal diseases recruited from Penn outpatient clinics
- 95 (72%) completed ADs
- After debriefing, no patients changed their specific choices

Trees:

- Screened: 9,378
  - Ineligible: 8,690 (92.7%)
  - Missed: 375 (4%)
  - Recruited by RN: 313 (3.3%)
    - Consented: 132 (42%)
    - Refused consent: 181 (58%)

Randomization:

- Comfort Default: 40 (30%)
- Standard AD: 43 (33%)
- Life-Extension Default: 49 (37%)

Assess Patient Satisfaction with Advance Care Planning
Overall Goals of Care

X I want my healthcare providers and agent to treat me by helping relieve my pain and suffering, even if that means that I may not live as long.

If you prefer to choose a different overall goal of care, cross out the lines above and place your initials by one of the other options below:

_____ I want my healthcare providers and agent to treat me by helping me to live as long as possible, even if that means that I may have more pain or suffering.

OR

_____ I do not want to specify one of the above goals. My healthcare providers and agent may direct the overall goals of my care.

In addition, I want my healthcare providers and agent to focus on the following goals (optional):

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
EXHIBIT 2

Percentage Of Patients Choosing A Comfort-Oriented Goal Of Care (Per Protocol Population)

- Comfort care default
- Standard advance directive
- Life-extension default

Percent

p = 0.004

No differences among arms in patients’ satisfaction with advance care planning 2 months later (all \( p > 0.4 \))
The ‘failure curve’ of AD implementation

- Affective Forecasting Errors
  1. Targeted too broadly
  - Current preferences (when healthy) don’t match future goals (when ill)

- Optimism bias
  2. Purported benefits seen as attainable without ADs

- Present-biased preferences
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- Focusing Effects
  4. Active choice required to receive comfort-promoting care

- Default Options
  5. ADs not accessible to clinicians or surrogates
  - Preferences don’t influence care received
  6. Surrogates feel guilt & burden from decision-making
  - Difficulty condoning palliative care

Poor completion rates

Principles of Behavioral Economics

Engaging patients in completing ADs

1. Forced active choice

2. Focusing effects

3. Incentives
   a. To providers (based on discussion vs. outcome)
   b. To patients (based on completion vs. content)
“Forced Active Choice” promotes choice

“Forced” (Heavily Encouraged) Active Choice and Prescription Drug Home Delivery

<table>
<thead>
<tr>
<th></th>
<th>Opt-in Regime</th>
<th>Active Choice Regime</th>
</tr>
</thead>
<tbody>
<tr>
<td>No choice</td>
<td>93.8%</td>
<td>20.7%</td>
</tr>
<tr>
<td>Retail Pick-up</td>
<td>6.2%</td>
<td>38.4%</td>
</tr>
<tr>
<td>Home Delivery</td>
<td>0%</td>
<td>40.8%</td>
</tr>
</tbody>
</table>

Beshears et al. (2012)
Forced active choice for AD completion

(Selected) New Medicare Enrollees

Usual enrollment with AD option

XX% AD completion

Outcomes

Enrollment with AD active choice

YY% AD completion

Outcomes

Proof of principle study soon to launch with University of Pennsylvania Health System employees
Engaging patients in completing ADs

1. Forced active choice

2. Focusing effects

3. Incentives
   a. To providers (based on discussion vs. outcome)
   b. To patients (based on completion vs. content)
DOES LIVING IN CALIFORNIA MAKE PEOPLE HAPPY?
A Focusing Illusion in Judgments of Life Satisfaction

David A. Schkade¹ and Daniel Kahneman²

- 1,993 students at:
  - Michigan
  - Ohio State
  - UCLA
  - UC

- Both groups predicted that a given student would be happier at a California school

- But no differences between groups’ self-reported happiness
Focusing on reduced family burdens

Seriously ill patients

Focus on control over end-of-life care

- XX% AD completion
- Outcomes

Focus on reducing family bereavement

- YY% AD completion
- Outcomes

Grant under review to conduct study in conjunction with Genesys Health Care System (MI) home care services
Engaging patients in completing ADs

1. Forced active choice

2. Focusing effects

3. Incentives
   a. To providers (based on having discussed AD vs. completion of AD)
   b. To patients (based on completion of AD, not choices made)
Conclusions

- Most seriously ill patients lack deep-seated preferences regarding their end-of-life care

- Psychological difficulties in planning for death lead to procrastination and ‘irrational’ choices

- These ‘pitfalls’ of normal human decision making may be leveraged to generate scalable interventions that improve advance care planning