Economic implications of end of life care

Gordon D. Rubenfeld, MD MSc
Professor of Medicine, University of Toronto
Chief, Program in Trauma, Emergency, and Critical Care
Sunnybrook Health Sciences Centre
No Financial Conflicts of Interest
Outline

• Is rationing done? Is it safe or effective?
• Do futile care patients cost a significant amount of money?
• Does reducing ICU length of stay reduce costs?
Rationing?

Perceptions of cost constraints, resource limitations, and rationing in United States intensive care units: Results of a national survey


- **Do you think healthcare rationing occurs in your ICU?**
  - **No** (94% nurse directors 89% MD)

- **Do you consider cost in any of your decisions in the ICU?**
  - **No** (66%)
Rationing Safe?

Cohort of patients evaluated by rapid response team for acute decompensation

- Less likely to be admitted
- More likely to change goals
- No difference in mortality

Adjusted Odds Ratio

- ICU Admission Within 2 h of MET Activation
- Change in Patient Goals of Care
- Hospital Mortality

Reference

0 ICU beds
1 ICU bed
2 ICU beds
≥2 ICU beds

Rationing not safe?

Higher treatment intensity at end of life
Better outcomes overall

Intensity of end of life treatment

(Med Care 2010;48: 125–132)
• 123 (11%) of 1136 ICU patients received “perceived futile treatment”
• 15% survival to 6 months (CI up to 23%) though most with poor functional status – is this futile?
• Is unilateral initiation of palliative care on the first day of “futility” possible in this population?
• Accounted for only 3.5% of hospital costs for these 1136 patients
• Errors:
  – Correct denominator should have been total hospital operating costs
  – Cost estimation did not account for fixed costs which would have been shifted to other patients
  – Marginal cost savings from eliminating this care … not big
Does futile care impair bed flow? Maybe ...

**The Opportunity Cost of Futile Treatment in the ICU**


Thanh N. Huynh, MD, MSHS¹; Eric C. Kleerup, MD¹; Prince P. Raj, MHA²; Neil S. Wenger, MD, MPH³,⁴,⁵

On 72 (16%) days, an ICU was full and contained at least one patient receiving futile treatment. During these days, 33 patients boarded in the emergency department for more than 4 hours after admitted to the ICU team, nine patients waited more than 1 day to be transferred from an outside hospital, and 15 patients canceled the transfer request after waiting more than 1 day. Two patients died while waiting to be transferred.

- ICUs more likely to have a futile patient when they were not full
- What about the other days?
Futility may not be that expensive

Can Health Care Costs Be Reduced by Limiting Intensive Care at the End of Life?

JOHN M. LUCE and GORDON D. RUBENFELD

- How much would be saved if every patient with a \( \leq 1\% \) chance of survival had life support withdrawn?
- 13\% of hospital charges, but, most savings from young patients with initially good prognosis or strong values
- If all Medicare money spent in the last year of life changed to hospice, only 3.3\% reduction in total costs
- Actual cost savings by reducing length of stay in ICU not as great as usually estimated
Better end of life care will result in better end of life care – not cheaper care

January 3, 2013,

Better, if Not Cheaper, Care
By EZEKIEL J. EMANUEL

THE ECONOMICS OF DYING
The Illusion of Cost Savings at the End of Life
Ezekiel J. Emanuel, M.D., Ph.D., and Linda L. Emanuel, M.D., Ph.D.
The New England Journal of Medicine

... we must stop deluding ourselves that advance directives and less aggressive care at the end of life will solve the financial problems of our health care system.
Is end-of-life care in the ICU the best place to save money?

- Unnecessary Imaging: $33 Billion
- Unnecessary Spinal Fusion: $11 Billion
- Unnecessary antibiotics for URI: $0.5 Billion
- Unnecessary care in the ICU: $0.04 Billion

Am J Respir Crit Care Med. 2012 Aug 2. [Epub ahead of print]
The Milbank Quarterly, Vol. 86, No. 4, 2008 (pp. 629–659)
Do you believe this?
Pharma would like you to

- *Pharmetomidine* gets patients off mechanical ventilation 17 hours faster
- An ICU day “costs” $4000

\[
\frac{800 \text{ patients}}{\text{year}} \times \frac{17}{24} \times $4000 \approx $2.5 \text{ million}
\]

- If you spend $2,000 per patient on *Pharmetomidine* you still save your hospital about **$1 million**!
A cost analysis of ethics consultations

• [...] we estimate that an ethics consultation practice would reduce treatment costs in a hospital with forty ICU beds (485 total hospital beds) by $157,380. This is just about equal to our estimated practice costs and suggests that an ethics consultation practice would be self-sufficient.

Health Affairs, 24, no.4 (2005):961-971
Reducing ICU costs by reducing length of stay, drugs, labs is limited

- Small marginal cost savings from reducing labs, drugs
- Reducing length of stay leads to less savings than estimated by charge analysis due to allocated fix costs

Price savings = $600

Incremental cost= $100

Price = $1,000 per day

Allocated overhead cost per day $700
Incremental cost per hospital day $300

Hospital inpatient day or ICU day

Price = $400 per day

Cost per day of home care $400

Intensive home care or ward day

Rubefneld, Luce AJRCCM 165:750–754, 2002
Well known that reducing length of stay has limited effects on cost.

Spending More Through ‘Cost Control’: Our Obsessive Quest To Gut The Hospital

by Uwe E. Reinhardt  

Length of Stay Has Minimal Impact on the Cost of Hospital Admission


Hospital Cost Containment and Length of Stay: An Econometric Analysis


common perceptions regarding the extent of cost savings resulting from length of stay reductions have been overestimated.
Conclusions
Reducing costs in critical care

- Rationing is not perceived to exist in US hospitals
- Significant reductions in ICU costs by decreasing length of stay, lab use, imaging likely **not** effective
- Reducing length of stay by shifting ICU patients to the ward or weaning centers saves little money and ready access to this increases “demand”
- Reducing length of stay can create capacity – but will **increase** local costs paradoxically
The most important economic impact of end of life care

- Advance care planning to prevent ICU admission and the trajectory of treatment escalation in dying patients
Put the data you have uncovered to beneficial use.

gordon.rubenfeld@sunnybrook.ca for slides and fellowship inquiries