

What happens after a person in a nursing home chooses DNR status?

An exploration of data in pursuit of research questions

My goals for the presentation

- Your understanding of the data available
- Are these interesting issues?
- What are interesting directions to explore?
 - Fundable questions
- Is the adherence to patient wishes a quality measure?
 - How would get at the “correct” use of DNR and the “correct” use of hospitalization after someone chooses DNR?

Data available: NH

- Information about patients admitted to Ohio nursing homes
 - All patients are asked about DNR status upon admission
 - We also know quite a lot about the patients
 - Diagnoses, mental status, functional status
 - We know the size and profit status of the nursing homes
 - We have SSN for the vast majority of the patients

Data available: Hospitalization

- Know all hospitalization data for non-HMO, non-VA enrolled persons over the age of
 - Charges for hospitalization
 - ICU days
 - Surgeries
 - Blood use
 - Respiratory care

Data available: Vital status

- Two sources of death information
 - MedPAR date of death
 - National death files

Exploration of the data

- Bivariate data
 - How does choosing DNR vary by demographics
 - Age, race, gender
 - By diagnostic group
 - Dementia, cancer, stroke, COPD, terminal illness
 - By intention to leave NH

Exploration of the data

- By nursing home type
 - Size, profit status
- By geography
 - Urban, suburban, rural, etc.

Adherence/outcome measures

- Hospitalizations
 - Events, days, charges
 - ICU care, high respiratory care use
 - Blood use
 - Surgeries
- Survival
 - Death in hospital
- Community discharge rates

Some preliminary results

- Different looks
 - Sample size is not the same
 - NH level sample without a lot of cleaning
 - Individual level: well cleaned data
 - Outcomes: subset of well cleaned NH data
 - Hospital cost data is pretty rough

Nursing Home Characteristics and DNR

Nursing Home Type	Rate of DNR/No DNR
Small (<50 beds)	37%
Medium (50-120)	43%
Large (>120 beds)	36%
Profit	38%
Non-profit	46%
Public	34%

Table 1: Patient level findings (n=11,1500)

	DNR/no DNR OR (Univariate)	OR (Multivariate)
Gender (female)	1.13	1.01
Dementia	1.37	1.15
Stroke	1.12	1.19
Cancer	1.54	1.32
Terminal illness	4.20	4.64
Race (white)	2.70	2.55
Planned Home D/C	0.51	0.56
Depress	1.02	1.03
Age		1.03

Table 2: One year survival
(N=769) (OR=2.3)

	No survival	survival	
No DNR	133	362	495
DNR	126	148	274
	256	510	769

Table 3: Hospital costs the next year

	Hospitalized fraction	Hospital costs
No DNR but died	69/133	25K
No DNR and lived	109/362	19K
DNR and died	27/126	22K
DNR and lived	37/148	13K