

DEATH AND DYING IN LTC

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DISCLOSURES

No disclosures.

**PLANNING FOR END OF LIFE IN
LONG TERM CARE**

BARRIERS TO HIGH QUALITY EOL CARE

Relevant to Canada:

- Inadequate Training
- Communication gaps
 - I.e. **MOST** status, Goals of Care
- Lack of standardized assessment of terminal status (**prognostication**)
- **Transitions Across Settings** (hospital, hospice etc.)

Considerations in other health systems:

- Lack of Hospice Access
- Issues Created by Joint Management
- Coverage and Reimbursement

LEARNING OBJECTIVES

Have a basic understanding of the barriers to high quality end of life care in long term care.

- Understand the expected outcomes with aggressive intervention in the elderly, and be able to apply this in goals of care conversations.
- Develop an understanding of the prognosis of common conditions seen in long term care.
- Identify signs and symptoms signifying end of life is approaching in a long term care patient.
- Recognize how hospital transfer and end of life are related using Fraser Health data.

1. Data to support Goals of Care (GOC) discussions and MOST designation
2. Prognosticating common LTC conditions
3. Anticipating End of Life (EoL) in Long Term Care (LTC)
4. Data from Fraser Health around hospital transfers and death rates

PLAN

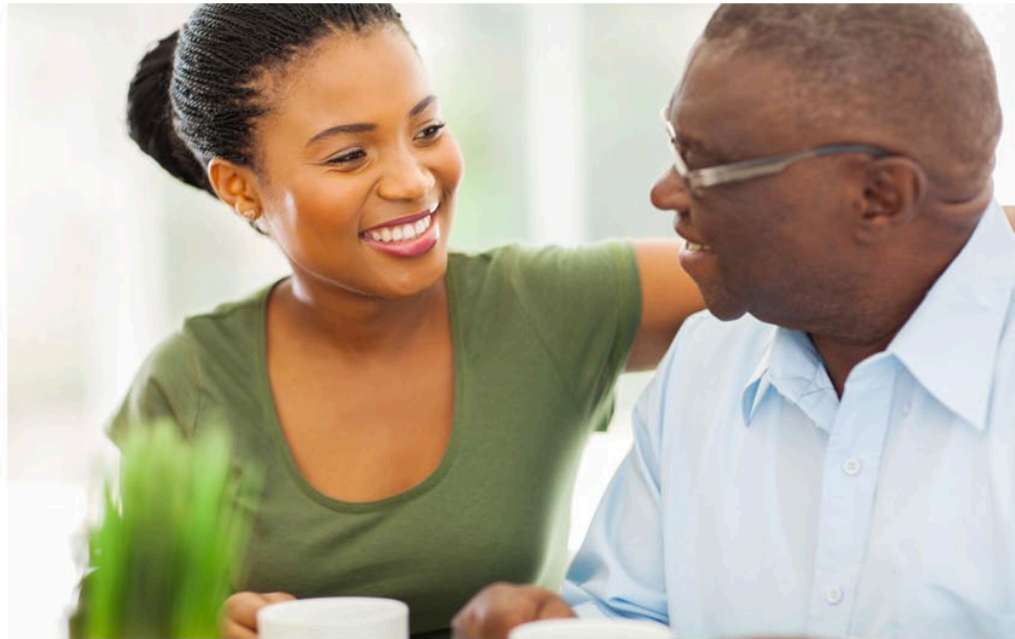
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GOALS OF CARE (MOST)

Essential Conversations

A Guide to Advance Care Planning
in Long-Term Care Settings

Spring 2021



www.advancedcareplanning.ca

1. Set up the conversation
 - Introduce the idea and the benefits
 - Prepare for future decisions
 - Ask permission

"I'd like to talk about what is ahead with your _____'s illness and do some thinking in advance about what is important to him/her so that I can make sure we provide him/her with the care that they'd want – is that okay?"
2. Explore prior conversations and any advance care planning
 - *"How much has your _____ discussed with you about his/her priorities and wishes, especially about his/her health and illness?"*
 - *"Does he/she have any previous advance care planning documents?"*
3. Assess illness understanding and information preferences
 - *"What is your current **understanding** of your _____'s illness now and how it might change over time?"*
 - *"How much **information** about what is likely to be ahead with your _____'s illness would you like from me?"*
4. Share prognosis and medical information
 - Tailor information to expressed preferences
 - Allow silence, explore emotions
 - Provide a warning shot
 - "I have some bad news." or "The news is not good."
 - Frame as "wish..., worry..."

"I want to share with you my understanding of where things are with your _____'s illness..."

Uncertain: *"It can be difficult to predict what will happen with your _____'s illness. I **hope** he/she will continue to live well for a long time but I'm **worried** that he/she could get sick quickly, and I think it is important to prepare for that possibility."*

OR

Time: *"I **wish** we were not in this situation, but I am **worried** that time may be as short as _____ (express a range, e.g., days to weeks, weeks to months, months to a year)."*

OR

Function: *"I **hope** that this is not the case, but I'm **worried** that this may be as strong as your _____ will be, and things are likely to get more difficult."*
5. Explore key topics
 - Goals
 - Fears
 - Strengths
 - Functions
 - Trade-offs

*"What would your _____ say would be his/her most important **goals** if/when his/her health worsens?"*

*"What would your _____ say are his/her biggest **fears and worries** about his/her health?"*

*"What gives your _____ and you **strength** as you think about the future and your _____'s illness?"*

*"What do you think your _____ would say are **abilities** that are so critical to him/her that he/she couldn't imagine living without them?"*

*"If/When your _____ becomes sicker, **how much would he/she say he/she would be willing to go through** for the possibility of gaining more time?"*
6. Close the conversation
 - Summarize what you've heard
 - Make a recommendation
 - Check for alignment
 - Affirm your commitment to the patient

"It sounds like _____ (summarize goals and fears) is very important to your _____."

*"Given your _____'s goals and priorities and what we know about his/her illness at this stage, I **recommend**..."*

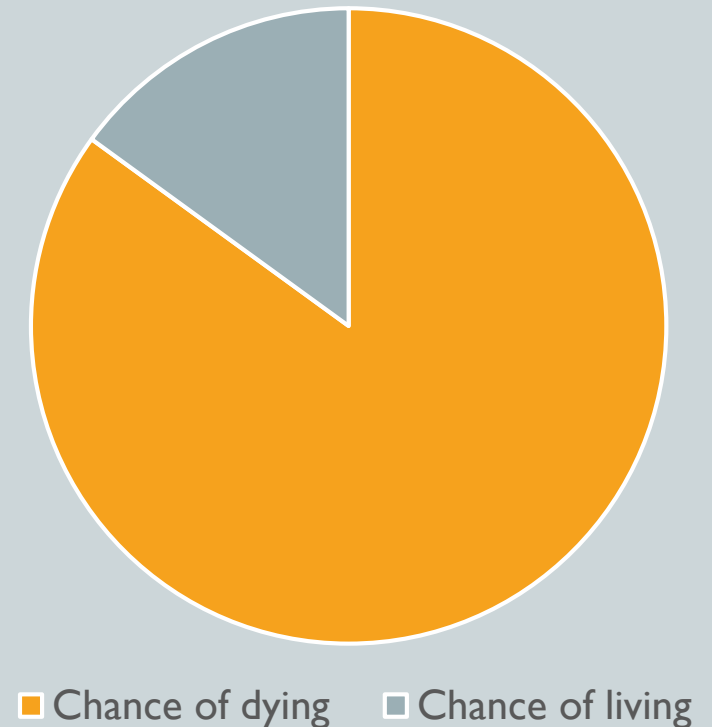
"How does this plan seem to you?"

"We're in this together."
7. Document your conversation
 - Document the care plan
 - Ensure entire team is on board
8. Communicate with key clinicians

PROGNOSTIC INFORMATION AFFECTS DECISION MAKING IN OLDER ADULTS...

- Ages 60-99, mean 77
- Used a CPR probability of survival of 10-17% + pie chart visual aid
- Before: **41%** preferred CPR in acute illness
- After: **22%** preferred CPR in acute illness
 - After, age 85+ - 2/34 (6%) said yes to CPR in an acute illness

Probability of Survival Post CPR



... AS WELL AS IN HEALTHCARE PROXIES

- Only **18.0% of proxies** reported having received prognostic information from a physician
- Only **32.5% of proxies** reported having received counselling about clinical complications to expect in advanced dementia
- “Residents whose health care proxies believed that the resident had less than 6 months to live and understood the clinical complications expected in advanced dementia were less likely to undergo a burdensome intervention during the final 3 months of life than were residents whose health care proxies did not have this understanding of the prognosis and expected complications.”

(WITNESSED) OUT OF HOSPITAL CARDIAC ARREST

- Survival to discharge:
 - 70+: 4.1%
 - General population: 7.6%
- Nursing home residency is associated with decreased survival in several studies
- Pre-arrest comorbidity is associated with decreased survival

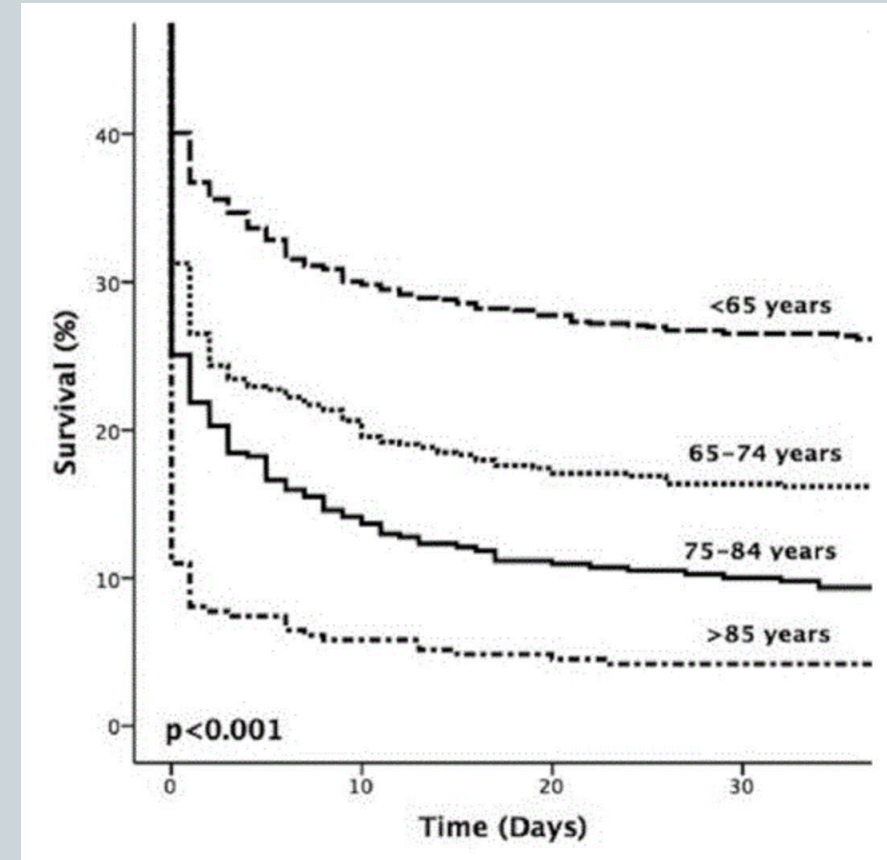
Characteristics of events	Favourable outcome N=55 (11.5)	Unfavourable outcome N=424 (88.5)	Odds ratio (95% confidence intervals)
Males (%)	44 (80.0)	273 (64.4)	2.21 (1.11–4.41)
Age <74 years	38 (69.1)	197 (46.5)	2.58 (1.41–4.71)
History of hypertension	7 (12.7)	118 (27.8)	0.38 (0.17–0.86)
History of diabetes mellitus	7 (12.7)	122 (28.8)	0.36 (0.16–0.82)
History of congestive heart failure	1 (1.8)	130 (30.7)	0.04 (0.03–0.31)
History of myocardial infarction	5 (9.1)	112 (26.4)	0.28 (0.11–0.72)

(WITNESSED) IN HOSPITAL CARDIAC ARREST

- Survival to discharge
 - 70-79: 18.7%
 - 80-89: 15.4%
 - 90+: 11.6%
- 82.5% of those who achieved ROSC died in hospital.
- 70+: 1 year survival between 7.0-20.9%
- 80+: 6 month survival between 5.7-6.1%
- Only 20% of survivors are capable of independent function outside of institutionalized care

MORTALITY AND NEURO OUTCOMES ARE POOR AFTER CPR AND ARE WORSE WITH INCREASING AGE

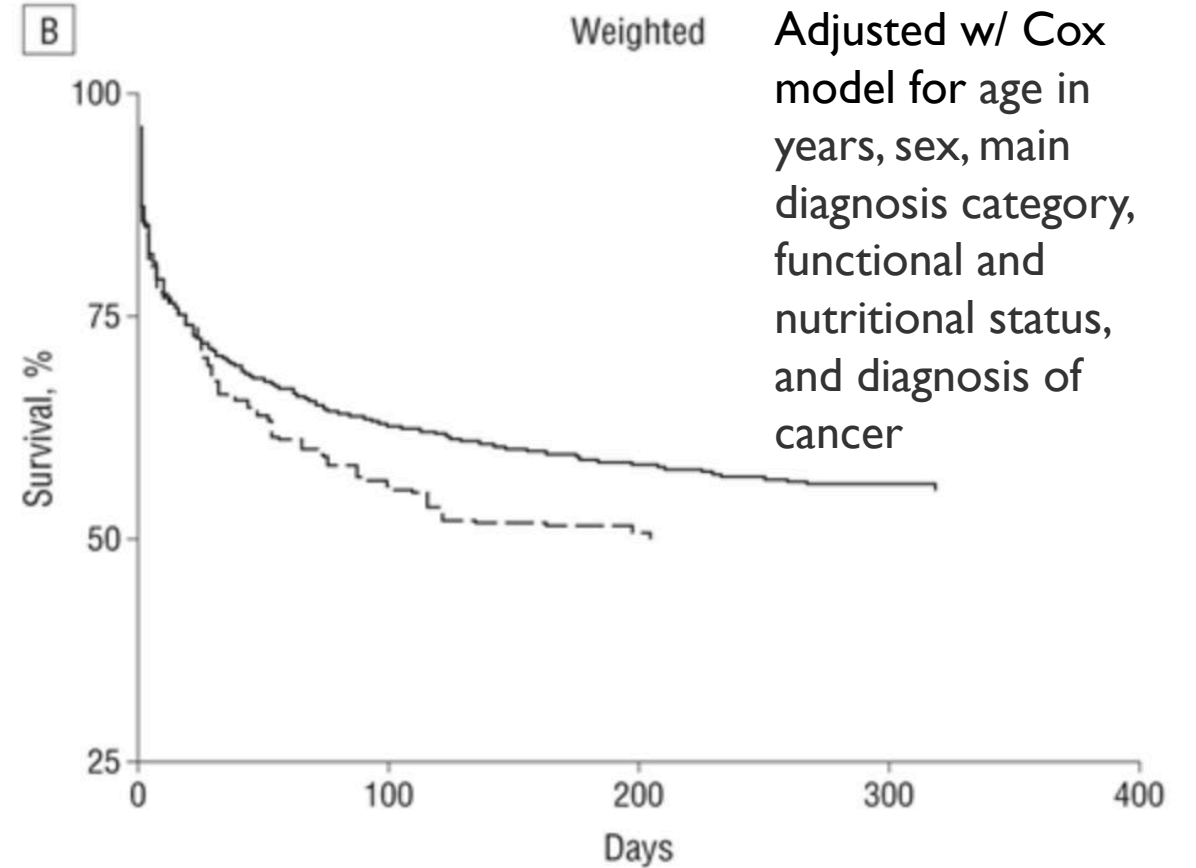
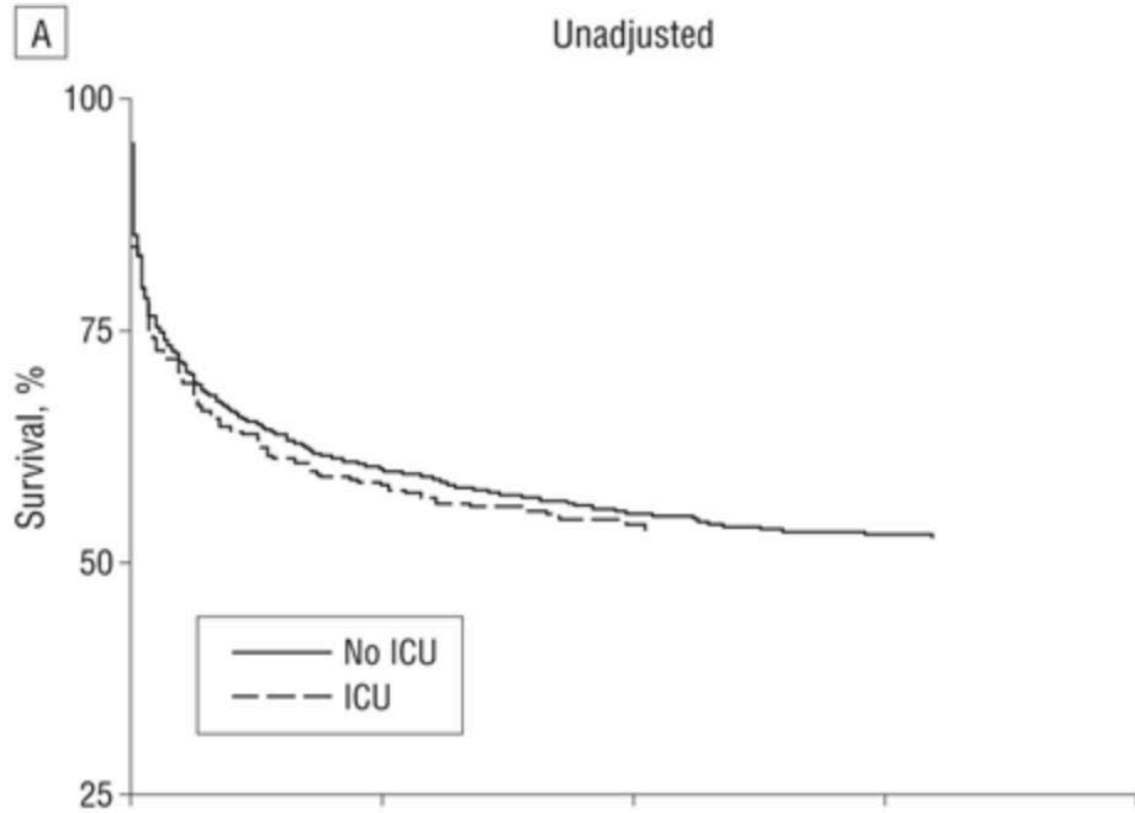
Outcome	Aged <65 years (n=881)	Aged 65-74 years (n=576)	Aged 75-84 years (n=449)	Aged >85 years (n=317)	p-value
ROSC, n (%)	387 (44.4)	224 (39.6)	159 (36.2)	76 (24.5)	<0.001
Death at scene, n (%)	410 (47.1)	330 (58.3)	272 (62.0)	249 (80.3)	<0.001
30-day survival, n (%)	224 (25.7)	92 (16.3)	39 (8.9)	12 (3.9)	<0.001
CPC 1 + 2, n (%)	180 (20.7)	68 (12.0)	21 (4.7)	6 (1.9)	<0.001



Outcome	ROSC	Death at scene	30-day survival	CPC 1 + 2
All elderly individuals	235 (31.4)	521 (69.6)	51 (6.8)	29 (3.9)
Frail elderly individuals	20 (22.5)	67 (75.3)	5 (5.6)	1 (1.1)

CPC = cognitive performance score (a measure of neuro status)

NO SURVIVAL BENEFIT TO ICU VS WARD IN 80+



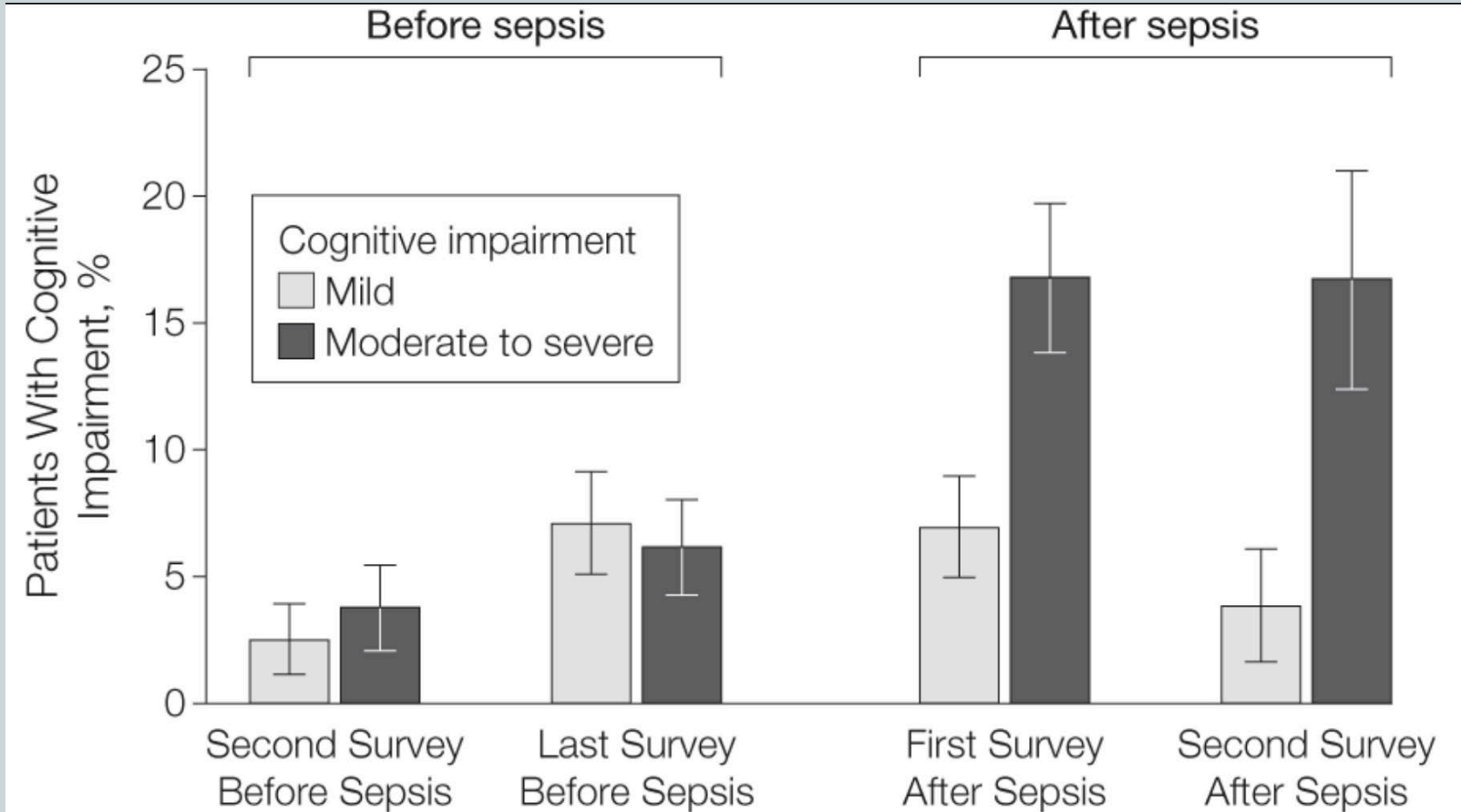
FRAILTY PREDICTS MORTALITY IN ICU ADMISSIONS

- Mean frailty score of those who died in 30d = 0.41
- Mean frailty score of those who survived to 300d = 0.22
- No one with a frailty index score >0.46 survived past 90 days
- All patients with a frailty index score <0.22 survived at least 30 days
- Each 1% increase in the FI from the previous level was associated with an 11% increase in the 30-day mortality risk

Frailty Index

- The number of deficits the patient has, divided by the number of deficits considered (full list = 70 deficits, this study used 52 items)
- Individuals do not exceed a limit of 0.7 in the frailty index

ICU FOR SEPSIS - COGNITION

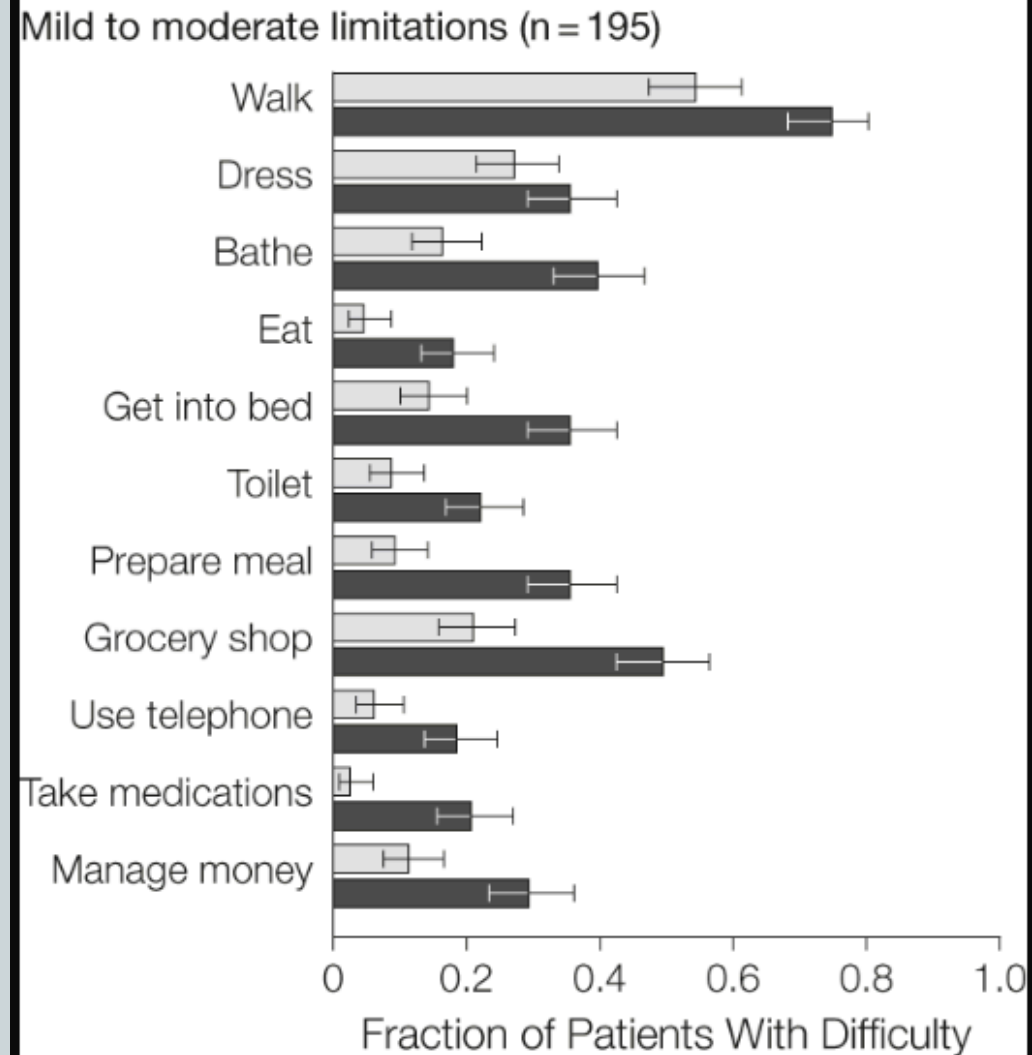


% of patients with Moderate to Severe Cognitive Impairment:

- Before sepsis: 6.1%
- After sepsis: 16.7%

Odds Ratio of progression to moderate to severe cognitive impairment (the odds that an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure) **with each patient serving as their own control: 3.34**

ICU FOR SEPSIS - FUNCTION



No statistically significant difference in increase in patients with poor functioning at baseline

Severe sepsis was associated with the development of 1.57 new functional limitations

FUNCTIONAL OUTCOMES ARE POOR IN ANY HOSPITAL ADMISSION (NOT JUST ICU)

- Acute hospital admission was associated with **further functional decline** in residents of aged care facilities
 - Greater for people with significant pre-existing cognitive impairment
- Functional outcomes following infection and pneumonia are **better for residents treated in their facility** compared with those who were hospitalised
 - May be due to greater illness severity in those transferred, although fewer than 1 in 10 residents with critical illness due to pneumonia are hospitalized

MORTALITY IS ALSO POOR AFTER HOSPITALIZATION

- Up to **52%** of RACF residents died within 3 months of acute hospital transfer
 - **12–29%** died within 1 month of leaving hospital
- Up to **37%** of residents represented within 2 weeks of the initial ED visit
 - Up to **66%** re-presented within 12 months

HOSPITALIZATION IS NOT BENIGN

- An ED visit was associated with a **3x increased** risk of new GI or respiratory tract infection
- Increased rates of antibiotic resistant bacteria in RACF
 - Recent or recurrent hospitalisation/ED transfer was associated with increased acquisition of resistant organisms

HOSPITALIZATION IS NOT BENIGN

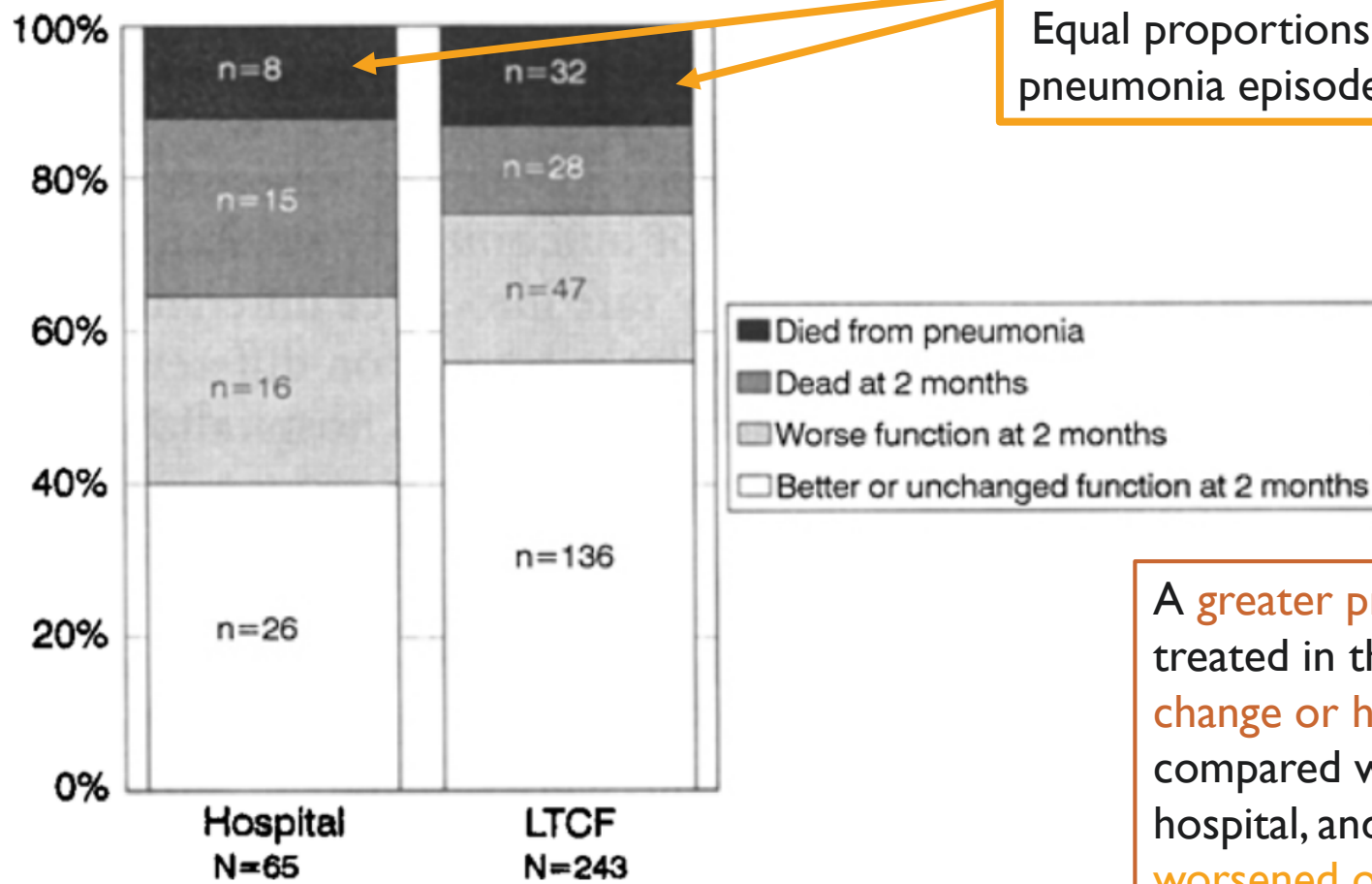
- Residents have a higher rate of developing **new pressure ulcers** in hospital (19%) vs. community-dwelling older people (4.3%).
- Compared with residents with no transfers, residents transferred to hospital had higher rates of new pressure ulcers and longer healing times.

PNEUMONIA AND MORTALITY

Hospitalization does not change mortality

(Adjusted for illness severity and propensity for hospitalization,
1406 patients).

PNEUMONIA AND MORTALITY, FUNCTION



Equal proportions died during their acute pneumonia episode.

A **greater proportion** of the survivors treated in the LTCF had **no functional change or had improved at 2 months** compared with those treated in the hospital, and a **smaller proportion worsened or died**
Even when adjusted for illness severity

PNEUMONIA AND FUNCTION

- Among patients without severe disability prior to hospitalization **66.3%** experienced **severe disability or death**
- With severe disability prior to hospitalization, **96.4%** experienced severe disability or death
- **39.3%** of these patients died during or within 60 days of hospitalization
- Care home residents are **more likely** to experience functional decline or death at 60 days following hospitalization for pneumonia than individuals diagnosed with metastatic non-small cell lung cancer.

Study
N=214,507

-
- Patients with **moderately dependent** functional status had a greater risk of functional decline or death 2 months after their pneumonia than either those with less or those with greater functional dependency.
 - Suggests these patients may have greater sensitivity to the effects of acute illnesses

PEG TUBE

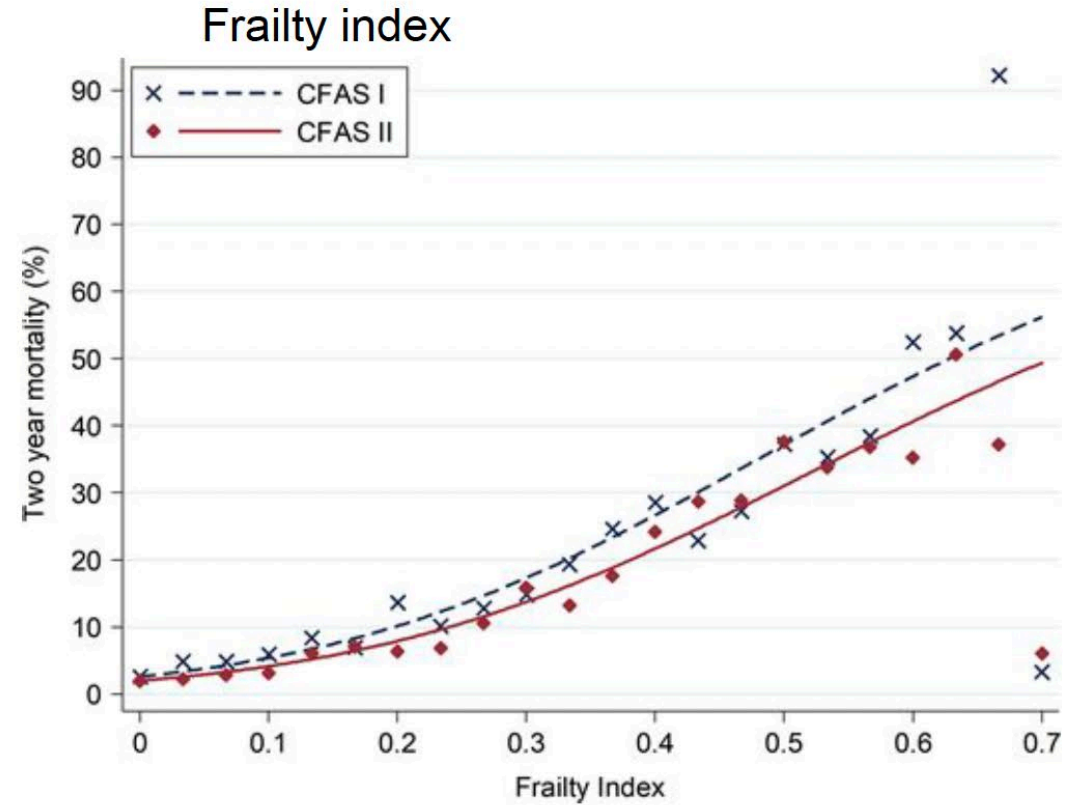
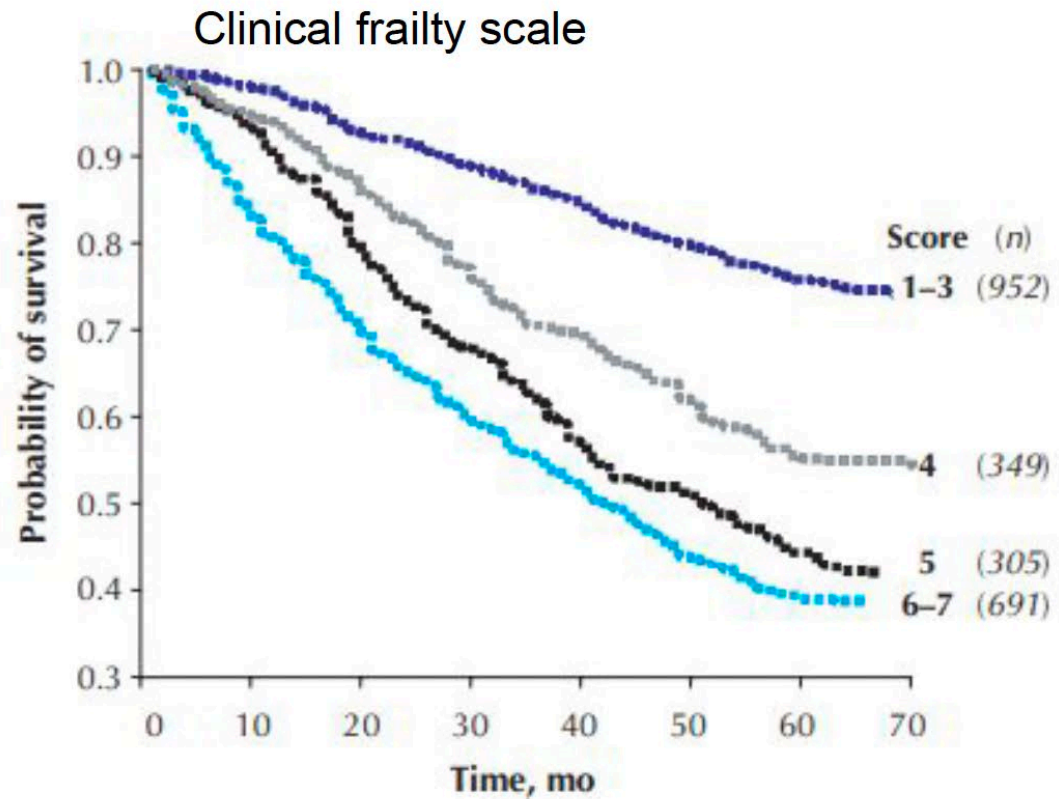
- Cochrane review: “**no evidence** that tube feeding improves survival; improves quality of life; reduces pain; reduces mortality; decreases behavioural and psychological symptoms of; leads to better nourishment; improves family or carer outcomes such as depression, anxiety, carer burden, or satisfaction with care”
- “We found some evidence that there is a **clinically significant risk of pressure ulcers** from enteral tube feeding.”
- May also increase aspiration risk, decrease quality of life and increase restraint usage

PLAN

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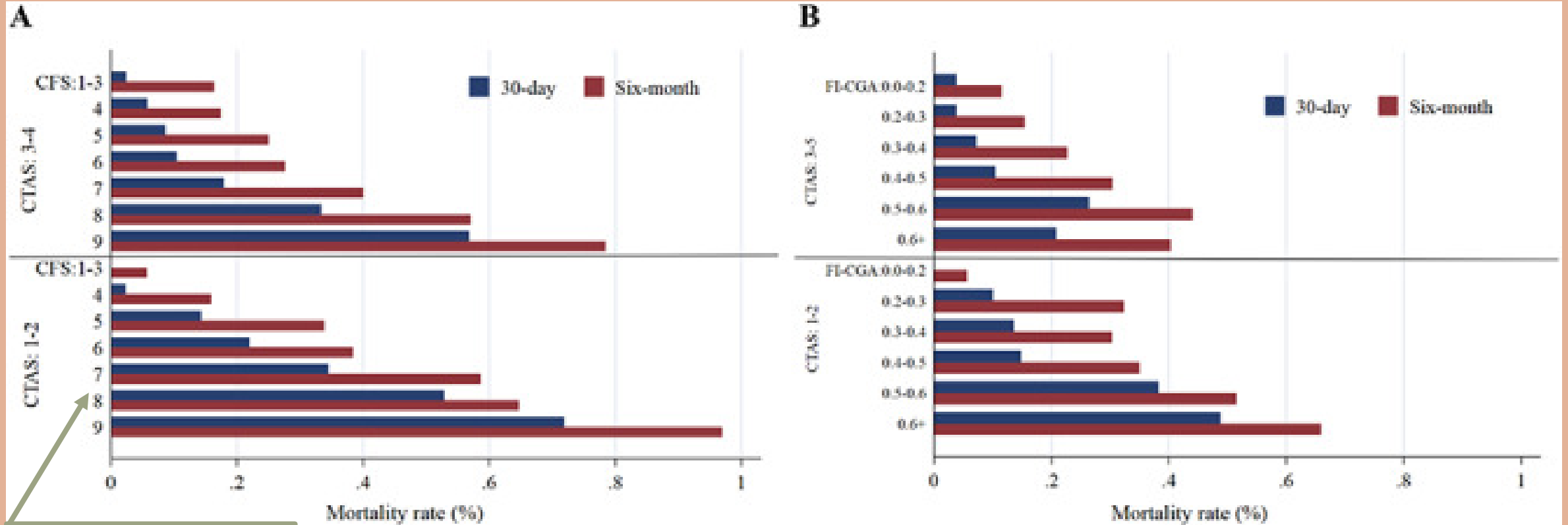
PREDICTING DEATH IN LTC

FRAILTY PREDICTS MORTALITY...



Fried et al, J Gerontol 2001. Rockwood et al, CMAJ 2005. Mousa et al, Age and Aging 2018. Stow et al, Age and Aging 2018.

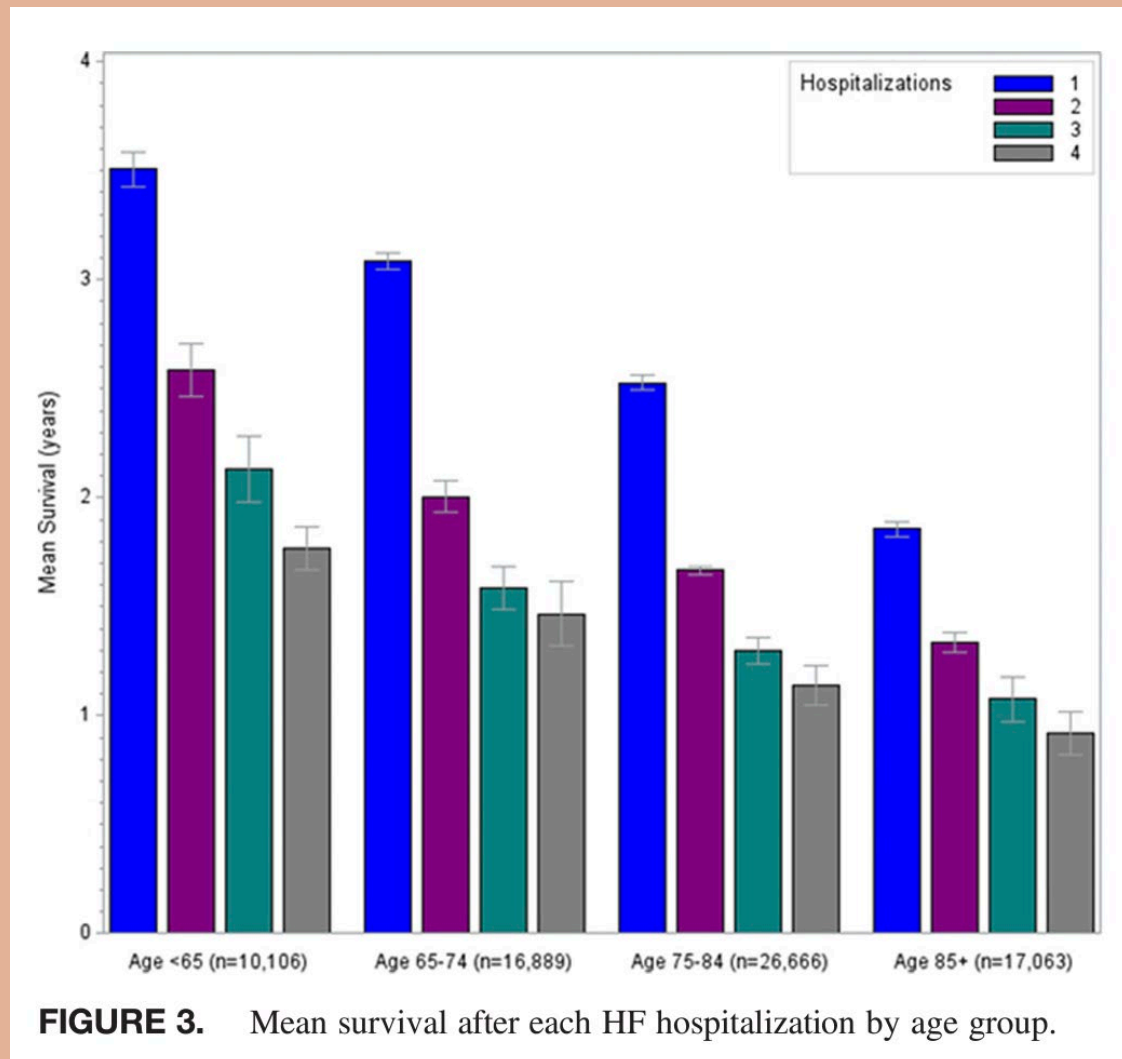
... EVEN IN LOW ACCUITY ADMISSIONS...



CFS of 7-8 with CTAS 1-2 present with a 35-55% 30 day mortality rate

Risk of Adverse Events remained elevated at 1, 2 and 5 years after hospitalization.

REPEAT ADMISSIONS (FOR CHF) INCREASE MORTALITY...



... WORSE IF CKD OR DEMENTIA PRESENT

CKD

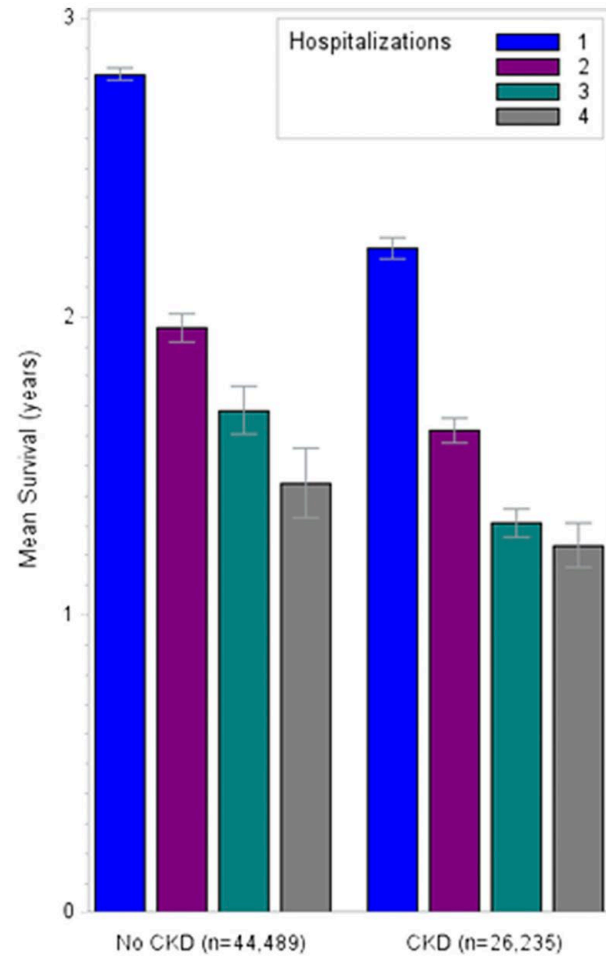


FIGURE 5. Mean survival after each HF hospitalization with and without history of CKD.

Dementia

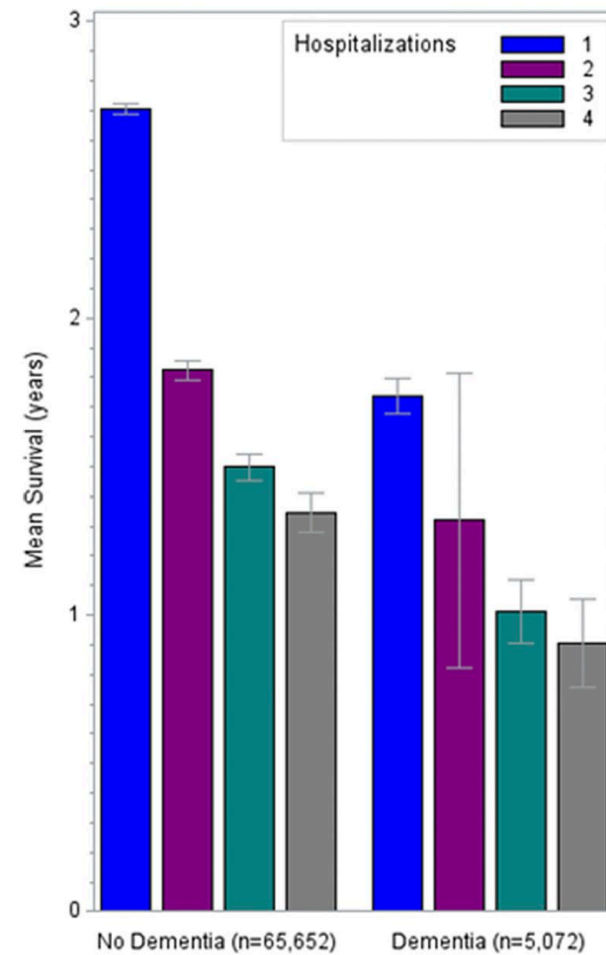


FIGURE 4. Mean survival after each HF hospitalization with and without history of dementia.

PROGNOSTICATION IN DEMENTIA

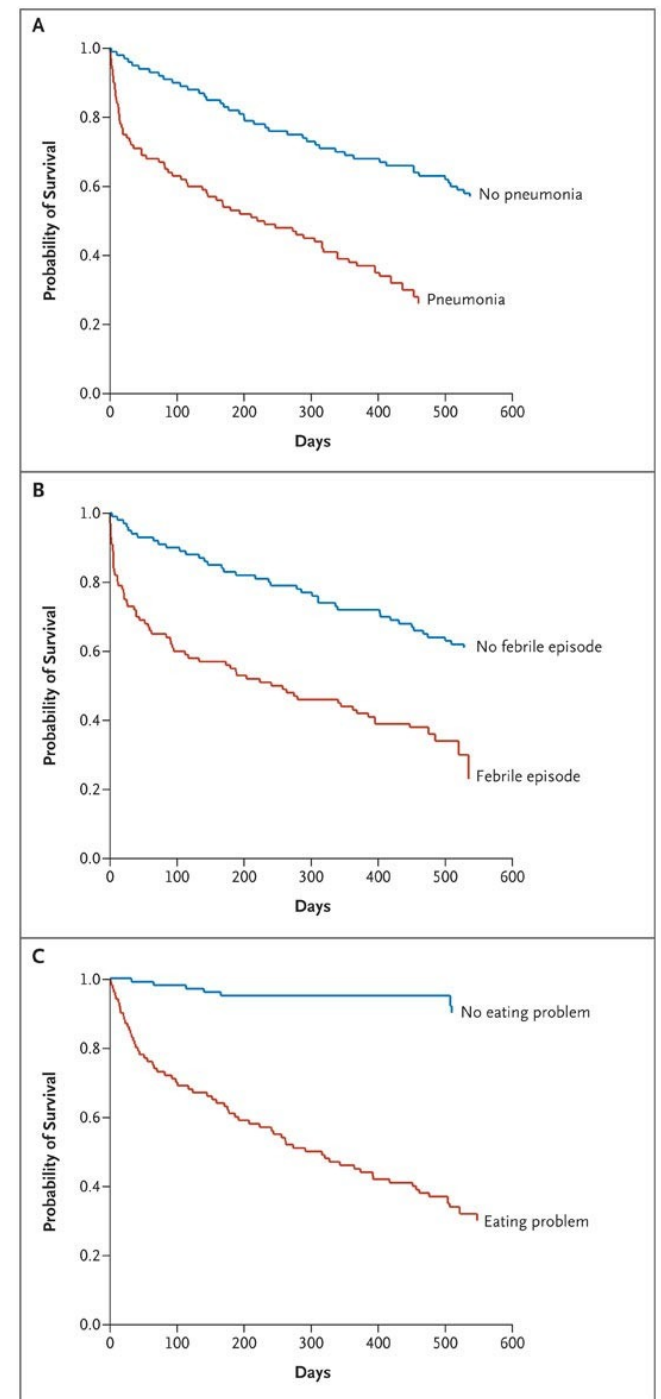
- **Dementia is a terminal diagnosis**
 - Median survival ~5 years from diagnosis
 - Consider viewing it as “**brain failure**” akin to heart failure or liver failure which inevitably leads to a cascade of failure of other organ systems.
 - Typical course is **slow progression punctuated by recurrent health crises** (not a slow, steady decline).

PROGNOSTICATING LATE-STAGE DEMENTIA

- Very difficult to estimate survival
- National Hospice and Palliative Care Organization (American):
 - Expected 6mo survival if: Functional Assessment Staging stage 7
 - **dependence** in all ADLs
 - **incontinence** of bladder and bowel
 - **6 or fewer** useable words
 - 1 or more listed **medical or nutritional complications**.
 - Medical complications = aspiration pneumonia, upper urinary tract infection, recurrent sepsis, or stage III or IV pressure ulcers
 - Nutritional complications = >10% weight loss in the past 6 months or a serum albumin <2.5 g/dL.

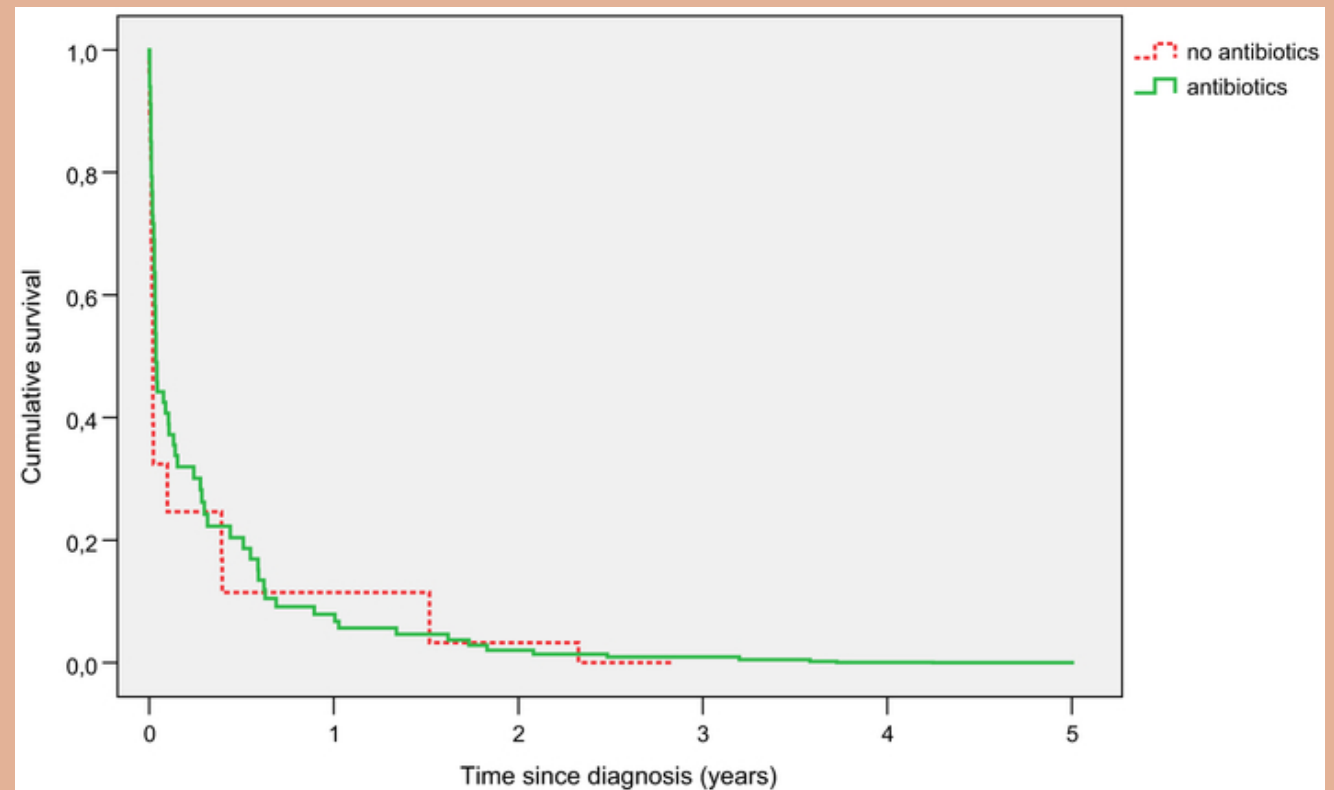
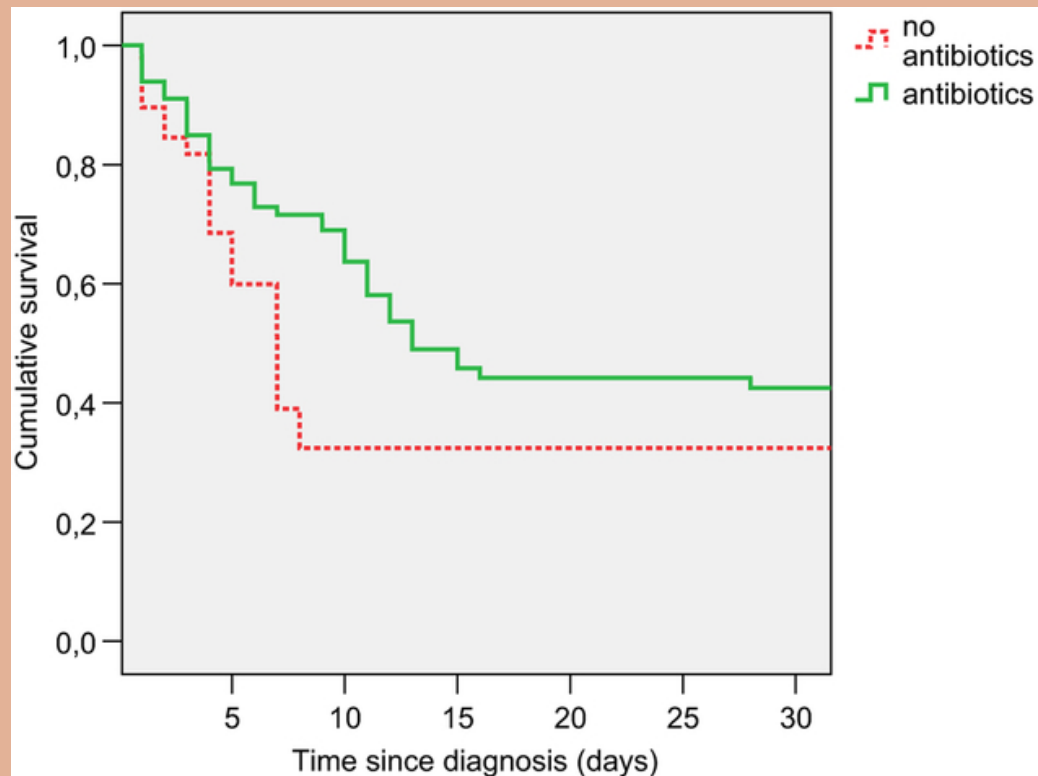
PROGNOSTICATION IN LATE-STAGE DEMENTIA

- **Pneumonia** (probability 41.1% in 18 mo) – 46.7% 6mo mortality
- **Febrile episode** (probability 52.6% in 18 mo) – 44.5% 6mo mortality
- **Eating problems** (probability 85.8% in 18mo) – 38.6% 6mo mortality
 - 90.4% develop eating problems in the last 3mo of life



PROGNOSTICATION IN PNEUMONIA IN ADVANCED DEMENTIA

Antibiotics for LTRI (in advanced dementia) improve 10d survival. Non-statistically significant improvements to 30d and 6mo Survival. No benefit to 5yr survival.



PROGNOSTICATION IN PNEUMONIA IN ADVANCED DEMENTIA

Antibiotics do **NOT** improve comfort in pneumonia

“We found lower comfort levels in those who received antimicrobial treatment compared with no treatment, as well as an association between greater discomfort and more aggressive routes of treatment”

PAIN IS OFTEN UNDERTREATED IN DEMENTIA...

... or mistaken for a behavioral issue requiring antipsychotic treatment.

Several investigators have recommended an **empirical trial of analgesics** for patients with behavioral problems for which no other etiology is found.

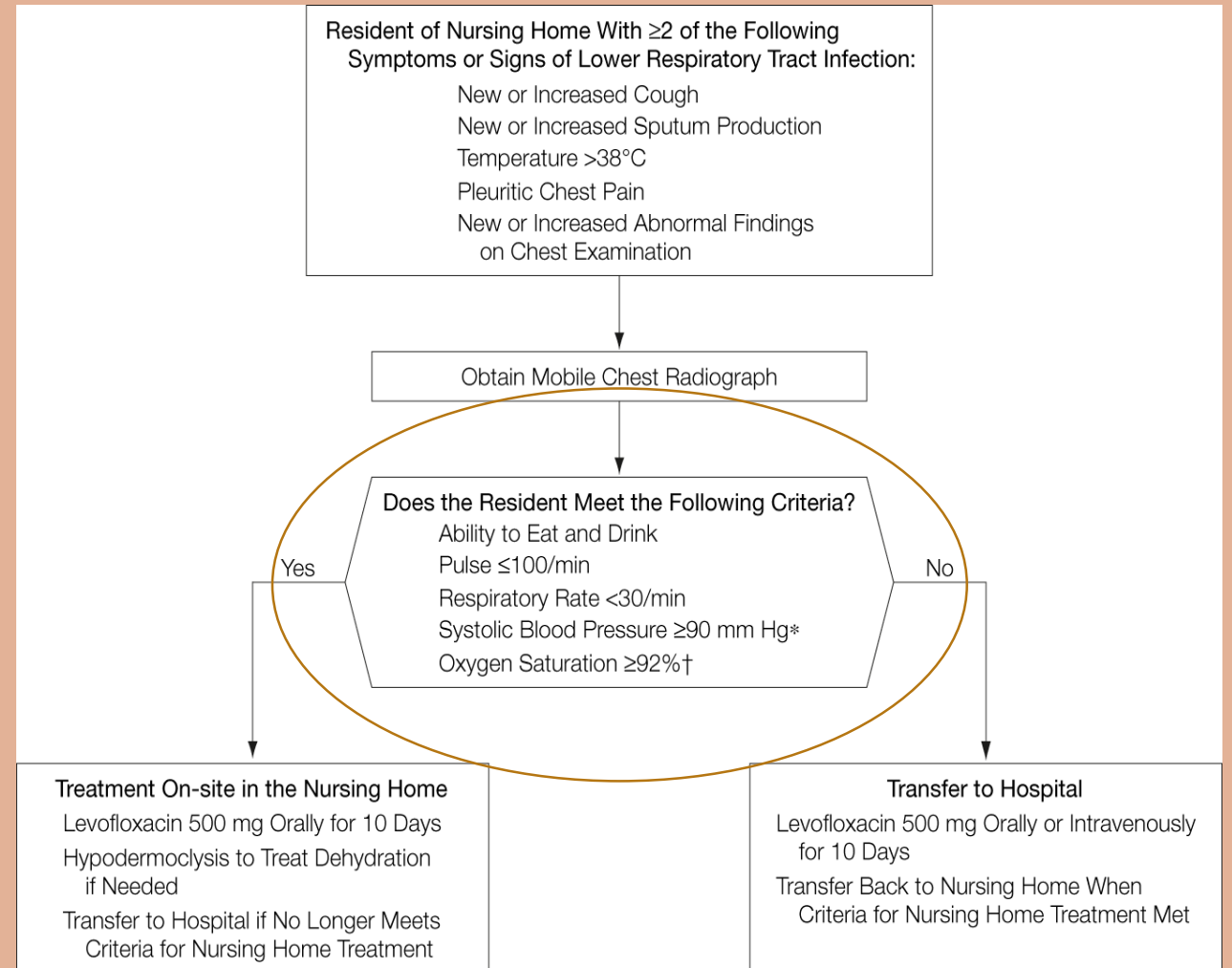
For dyspnea, opioids work best at **onset** of action – try lower doses more frequently (6-7 PRN doses vs. ~3 doses for pain)!

WHEN TO SEND TO HOSPITAL IN PNEUMONIA

- Predictive factors for failing community treatment:
 - Pulse > 90/min
 - Temperature > 100.5 degrees F (38 degrees C)
 - Respirations > 30/min
 - Elevated respiratory rate was associated with dying from pneumonia in the LTCF but not in the hospital.
 - Feeding dependence
 - Mechanically altered diets
- More factors = more likely to fail

WHEN TO SEND TO HOSPITAL IN PNEUMONIA

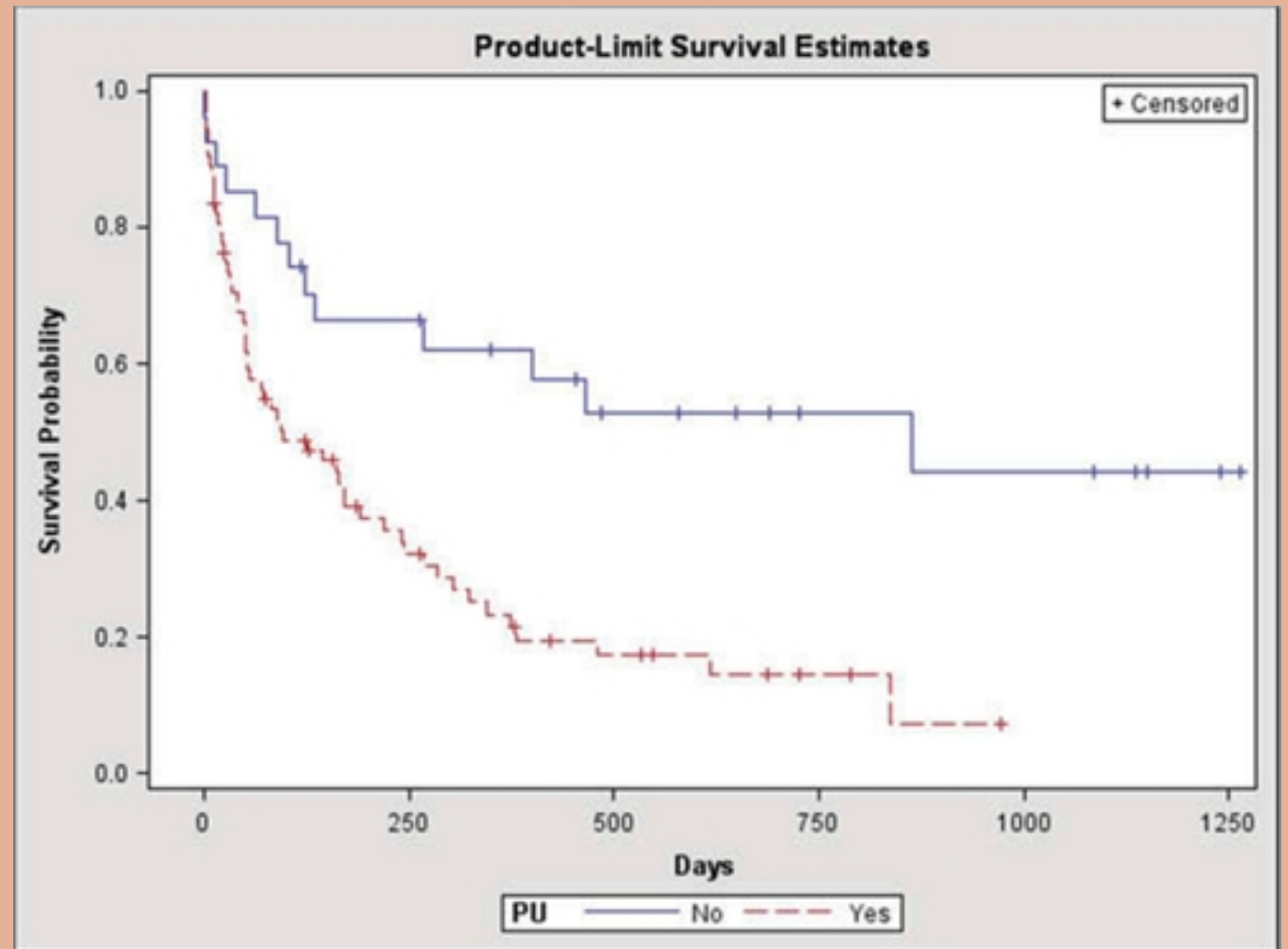
- Usual care (physician determined) vs. clinical pathway
- Algorithm:
 - Fewer hospitalizations (10% vs 22%)
 - Shorter hospital stay (0.79 vs 1.74)
 - Cost savings of US \$1016
- No significant differences in mortality (8% algorithm vs 9%) health-related quality of life or functional status.



PROGNOSTICATING PRESSURE ULCERS

- Median survival with pressure ulcers = 96d
- Median survival without pressure ulcers = 863 d

Recall from earlier – RACF have a higher rate of developing **new pressure ulcers** in hospital (19%) vs. community-dwelling older people (4.3%)!



CACHEXIA IN DEMENTIA IS AN INEVITABILITY

- Cachexia is an inevitability
 - A hypercatabolic and systemic proinflammatory state that leads to chronic inflammation, muscle wasting, functional decline, and anorexia
 - Cachexia causes anorexia but anorexia does not cause cachexia
- It is reasonable to forego dietary modifications designed to reduce aspiration risk (thickened liquids, for example) in favor of greater patient comfort and pleasure at end of life.

PROGNOSTICATION TOOLS

EPROGNOSIS

ePrognosis

HOME ABOUT CALCULATORS▼ CANCER SCREENING DECISION TOOLS▼ COMMUNICATION

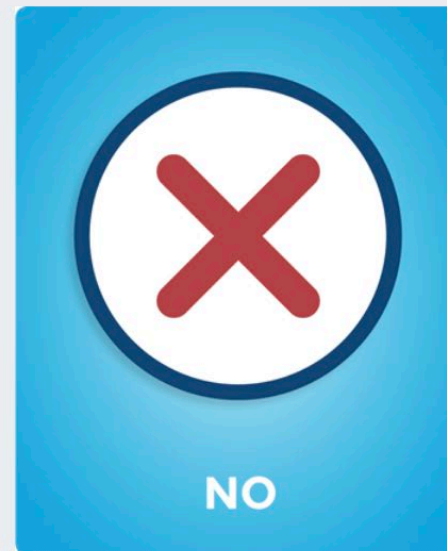
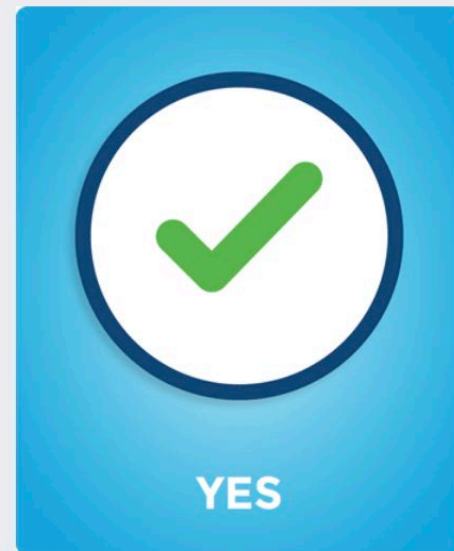
WHERE IS YOUR PATIENT?



<https://eprognosis.ucsf.edu/>

EPROGNOSIS

DOES THIS PATIENT HAVE DEMENTIA?



EPROGNOSIS

Dementia model:
sorts patients who
died from patients
who lived correctly
67% of the time



Risk Calculator

1. Has your patient been admitted to the nursing home in the past 90 days? Yes No
2. How old is your patient?
3. What is the sex of your patient? Male Female
4. Does your patient have shortness of breath? Yes No
5. Does your patient have at least one pressure ulcer that is greater than or equal to Stage 2? Yes No
6. Is your patient totally dependent for all Activities of Daily Living, including bed mobility and eating? Yes No
7. Is your patient bedbound most of the day? Yes No
8. Does your patient have insufficient oral intake?
(Defined as not consuming almost all liquids in previous 3 days or at least 25% of food uneaten at most meals) Yes No
9. Does your patient have bowel incontinence? Yes No
10. Is your patient's BMI less than 18.5?
[BMI Calculator](#): BMI = 703 x (weight in pounds / (height in inches)²) Yes No
11. Has your patient experience recent weight loss?
(Defined as more than 5% body weight in prior 30 days or more than 10% in prior 180 days) Yes No
12. Does your patient have congestive heart failure? Yes No

Total Points: 0

[Calculate risk >](#)

Without dementia,
6mo mortality
(Porock Index) =
75% correct

Without dementia,
1yr mortality
(Flacker Long Stay
Index) = 71%
correct

FAST TOOL + MORTALITY RISK INDEX

Functional Assessment Staging (FAST)

Stages

1. No difficulties
2. Subjective forgetfulness
1. Decreased job functioning and organizational capacity
4. Difficulty with complex tasks, instrumental ADLs
5. Requires supervision with ADLs
6. Impaired ADLs, with incontinence
7. A. Ability to speak limited to six words
B. Ability to speak limited to single word
C. Loss of ambulation
D. Inability to sit
E. Inability to smile
F. Inability to hold head up

Mortality Risk Index Score (Mitchell)

Points Risk factor

- | | |
|-----|---|
| 1.9 | Complete dependence with ADLs |
| 1.9 | Male gender |
| 1.7 | Cancer |
| 1.6 | Congestive heart failure |
| 1.6 | O ₂ therapy needed w/in 14 day |
| 1.5 | Shortness of breath |
| 1.5 | <25% of food eaten at most meals |
| 1.5 | Unstable medical condition |
| 1.5 | Bowel incontinence |
| 1.5 | Bedfast |
| 1.4 | Age > 83 y |
| 1.4 | Not awake most of the day |

Risk estimate of death within 6 months

<u>Score</u>	<u>Risk %</u>
0	8.9
1-2	10.8
3-5	23.2
6-8	40.4
9-11	57.0
≥ 12	70.0

<https://www.predictsurvival.com/>

For prognosis of advanced cancer patients

HYPERNATREMIA

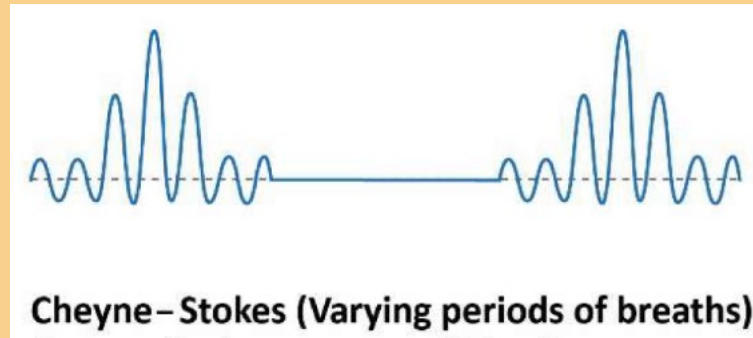
- Hypernatremia (serum Na > 146 mmol/l) was found in 82% of patients who died from a febrile illness (oral temp consistently > 37.2 °C, or rectal temp 37.5 °C).
- 35% of hypernatremia episodes died

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ANTICIPATING END OF LIFE

WHAT DOES ACTIVELY DYING LOOK LIKE?



- Decreased oral intake
- Breathing changes
 - Becomes shallow and frequent.
 - May develop Cheyne-Stokes breathing and/or periods of apnea.
- Upper Airway Secretions (reduced ability to swallow, loss of gag reflex)
 - Gurgling, crackling rattling sounds with each breath; “death rattle”
- Signs of diminished perfusion
 - Including peripheral cooling, cyanosis, mottling of the skin

Identifying the actively dying patient

Profound progressive weakness
Bed-bound state
Sleeping much of the time
Indifference to food and fluids
Difficulty swallowing
Disorientation to time, with increasingly short attention span
Low or lower blood pressure not related to hypovolemia
Urinary incontinence or retention caused by weakness
Oliguria
Loss of ability to close eyes
Hallucinations involving previously deceased important individuals
References to going home or similar themes
Changes in respiratory rate and pattern (Cheyne-Stokes breathing, apneas)
Noisy breathing, pooling of airway secretions
Mottling and cooling of the skin due to vasomotor instability with venous pooling, particularly tibial
Dropping blood pressure with rising, weak pulse
Mental status changes (delirium, restlessness, agitation, coma)

Reproduced from: Bicanovsky L. Comfort Care: Symptom Control in the Dying. In: Palliative Medicine, Walsh D, Caraceni AT, Fainsinger R, et al (Eds), Saunders, Philadelphia 2009. Table used with the permission of Elsevier Inc. All rights reserved.

PATIENTS DON'T EXPERIENCE HUNGER OR THIRST AT EOL

- No increased distress associated with minimal PO intake
- Comfort can be provided with small amounts of food, fluids, and/or by the application of ice chips and lubrication to the lips
 - (ie. Mouth care **not** parenteral fluids)



Regional Pre-Printed Orders for Actively Dying Adults Acute & Long-Term Care



Note: There is a corresponding IMAR for this pre-printed medication order form.

Form ID: DRDO107520A New: June 01, 2022 Page: 1 of 1

DRUG & FOOD ALLERGIES

Mandatory **Optional: Prescriber check (✓) to initiate, cross out and initial any orders not indicated.**

I have determined patient meets all of the criteria:

- Death anticipated in hours to days (patient must be reviewed daily)
- Patient is bed bound AND taking minimal oral nutrition
- Patient's prognosis and goals of care have been discussed with the patient or Substitute Decision Maker and documented
- Review MOST status – commonly will be DNR M1

Assessor's (Acute: MRP; LTC: MRP/RN/LPN/RPN) Signature: _____ Date: _____

Change medical orders to align with goals of care (check all that apply):

Discontinue routine vital signs, weights, glucometer, diagnostic testing, oximetry and blood work

Stop IV/enteral feeds – may cause edema and build-up of secretions in lungs

May insert indwelling Foley catheter as required for comfort

Nurse may pronounce death

MRP to review ALL current MEDICATIONS (Do not discontinue fentanyl patch or methadone - see back page)

- Discontinue all oral medications except: _____

SYMPTOMS	MEDICATIONS
Mild pain and/or Distressing Fever	<input type="checkbox"/> acetaminophen 650 mg PO/rectal Q4H PRN (maximum 4000 mg/24 h from all sources)
Pain/Dyspnea	<p>If currently taking opioids:</p> <p><input type="checkbox"/> Convert current regular PO opioid to HYDROmorphine subcutaneous Q4H: HYDROmorphine _____ mg subcutaneous Q4H For community pharmacy, dispense 40 doses</p> <p><input type="checkbox"/> For breakthrough: HYDROmorphine _____ mg subcutaneous Q1H PRN (recommended 10% of total daily dose) For community pharmacy, dispense 40 doses</p> <p>*OR*</p> <p>If OPIOID NAIVE (see definition on back page):</p> <p><input type="checkbox"/> If opioid naive, HYDROmorphine 0.25 mg subcutaneous Q1H PRN For community pharmacy, dispense 40 doses</p>
Distressing Restlessness/Agitation	<p><input type="checkbox"/> Less sedating: haloperidol 0.5 to 1 mg subcutaneous Q4H PRN (call MRP if more than 2.5 mg from all sources is required in 24 hours)</p> <p><input type="checkbox"/> More sedating: methotrimeprazine 6.25 to 12.5 mg subcutaneous Q4H PRN (call MRP if requiring more than 25 mg in 12 hours)</p>
Nausea and/or Vomiting	<input type="checkbox"/> haloperidol 0.5 to 1 mg subcutaneous Q12H PRN (call MRP if more than 2.5 mg from all sources is required in 24 hours)
Anxiety	<input type="checkbox"/> LORazepam 0.5 to 1 mg sublingual/subcutaneous Q2H PRN (call MRP if using more than 2 mg in 12 hours). For community pharmacy, dispense 40 doses.
Upper Airway Secretions	<p><input type="checkbox"/> atropine 1% eye drop 2 drops sublingual Q2H PRN</p> <p><input type="checkbox"/> glycopyrrolate 0.4 mg subcutaneous Q4H PRN (maximum 2.4 mg per 24 hours)</p>

Note: Each subcutaneous medication requires its own site

- PPO is only active for 2 weeks. After two weeks, if still needed, MRP must review PPO and reorder.
- Pharmacy requires new signed PPO to provide additional medications beyond 2 weeks.

Date (dd/mm/yyyy)	Time	Prescriber Signature	Printed Name	College ID#

Regional Pre-Printed Orders for Actively Dying Adults Acute & Long-Term Care

Back of Page 1

Tips for Stopping Oral Medication:

- If patient can no longer swallow, stop all oral medications. Some may need to be converted to another route
- If unsure about medications to stop after reviewing tool for stopping medications at end of life, consult pharmacist or palliative care
- Consider purpose of medications and impact if stopped ie:
 - Do not stop fentanyl patch on dying patients
 - Do not automatically stop steroids – can be converted to subcutaneous route
 - Some diuretics may be beneficial to continue for symptom management of dyspnea

Opioid Equianalgesic Conversion Worksheet

Opioid Naive definition: patient has received less than 60 mg of oral morphine equivalents daily for less than 7 consecutive days

1. Relative potency comparison (Note: when rotating opioids, reduce final dose by 25%)

Opioid	oxyCODONE (not available in subcutaneous route)	HYDROmorphine
Relative Potency	1.5x stronger than morphine	5x stronger than morphine
Examples:	oxyCODONE 5 mg PO is approximately equal to morphine 7.5 mg PO	HYDROmorphine 1 mg PO is approximately equal to morphine 5 mg PO

Hospice Palliative Care Symptoms Guidelines. Principles of Opioid Management, p. 6-7. Fraser Health (2006)

2. methadone
 - methadone: Consult with pharmacist or palliative consult team
3. Converting oral oxyCODONE/morphine to subcutaneous HYDROmorphine

STEP 1: If starting with oral oxyCODONE:	= 24 hour oral morphine dose
<ul style="list-style-type: none"> • Add up total oxyCODONE in last 24 hours • Convert to oral morphine by multiplying above dose by 1.5 	
STEP 1: If starting with oral morphine:	= 24 hour subcutaneous morphine dose
<ul style="list-style-type: none"> • Add up total oral morphine in last 24 hours 	
STEP 2: Convert 24 hour oral morphine dose to 24 hour subcutaneous dose	= 24 hour subcutaneous morphine dose
<ul style="list-style-type: none"> • Divide 24 hour oral morphine dose by 2 	
STEP 3: Convert 24 hour subcutaneous morphine dose to subcutaneous HYDROmorphine	= 24 hour subcutaneous HYDROmorphine dose
<ul style="list-style-type: none"> • Divide 24 hour subcutaneous morphine dose by 5 	
STEP 4: Reduce dose by 25% (due to potential for cross tolerance), unless patient having significant pain/dyspnea:	= 24 hour subcutaneous HYDROmorphine reduced dose
<ul style="list-style-type: none"> • Multiply equianalgesic 24 hour subcutaneous HYDROmorphine dose by 0.75 (i.e. 25% reduction) 	
STEP 5: Determine regular Q4H dose	= regular subcutaneous HYDROmorphine dose every 4 hours
<ul style="list-style-type: none"> • Divide 24 hour subcutaneous HYDROmorphine dose by 6 	
STEP 6: Determine breakthrough PRN dose	= breakthrough subcutaneous HYDROmorphine dose every 1 hour PRN
<ul style="list-style-type: none"> • Divide 24 hour subcutaneous HYDROmorphine dose by 10 	

4. Converting oral HYDROmorphine to subcutaneous route
 - Step 1: Divide 24 hour oral HYDROmorphine dose by 2 to get subcutaneous dose
 - Step 2: Divide 24 hour subcutaneous dose by 6 to get Q4H dose
 - Step 3: Breakthrough dose is 10% of 24 hour subcutaneous dose ordered Q1H PRN

5. fentanyl patch
 - Continue current dose of fentanyl patch if effective

Breakthrough PRN dosing:

- Divide current dose of fentanyl by 25 to equal breakthrough dose of HYDROmorphine, given subcutaneously every 1 hour PRN
- Example: if patient on fentanyl 50 mcg/h patch, patient will need HYDROmorphine 2 mg subcutaneous Q1H PRN as breakthrough

OTHER EOL TREATMENT OPTIONS TO BE AWARE OF

- Methadone (neuropathic + somatic pain control)
- Sufenta pump, fentanyl patch
- Crisis dosing (midazolam, hydromorphone)
- Dexamethasone for pain, dyspnea
- Benzodiazepines for agitation
- Hypodermoklysis
- Dyspnea fan
- Stimulants for mood disorder at EoL
- Methotrimeprazine for refractory agitation, nausea
- Midazolam infusion (subq)

Furosemide can be given SC!

- All patients in Hospice Units are to have access to crisis orders

MEDICATIONS:

Respiratory and/or Pain Crisis:

For patients who are NOT on regularly scheduled opioids:

HYDROmorphone 1 mg subcutaneous Q20MIN PRN x 2 doses; call MRP after giving second dose
OR

For patients who are on regularly scheduled opioids, select one of the following:

morphine _____ mg subcutaneous Q20MIN PRN x 2 doses; call MRP after giving second dose

OR

HYDROmorphone 2 mg subcutaneous Q20MIN PRN x 2 doses; call MRP after giving second dose

Crisis Events:

- **midazolam** 5 mg subcutaneous Q20MIN PRN x 2 doses for crisis events. Call MRP if not effective

For sites serviced by Community Pharmacies: Orders are valid for 100 days, can dispense 200 doses for PRN opioids unless otherwise specified.

Purpose:

- To provide direction for appropriate opioids and other crisis medications prescribing for patients experiencing severe symptom crisis i.e. pain or dyspnea

Guidelines for Order:

- Respiratory or pain crisis orders are based on the patient's current breakthrough (BT) dose for opioids. Breakthrough = dose 10% of total daily dose of opioids.
- Crisis orders for acute symptom crisis, such as severe pain or severe dyspnea:
 - Give the same milligram amount as oral breakthrough dose of opioid, via subcutaneous route
OR
 - Give double the subcutaneous breakthrough dose via the subcutaneous route
- Minimum crisis order should not be less than HYDROmorphone 1 mg subcutaneous

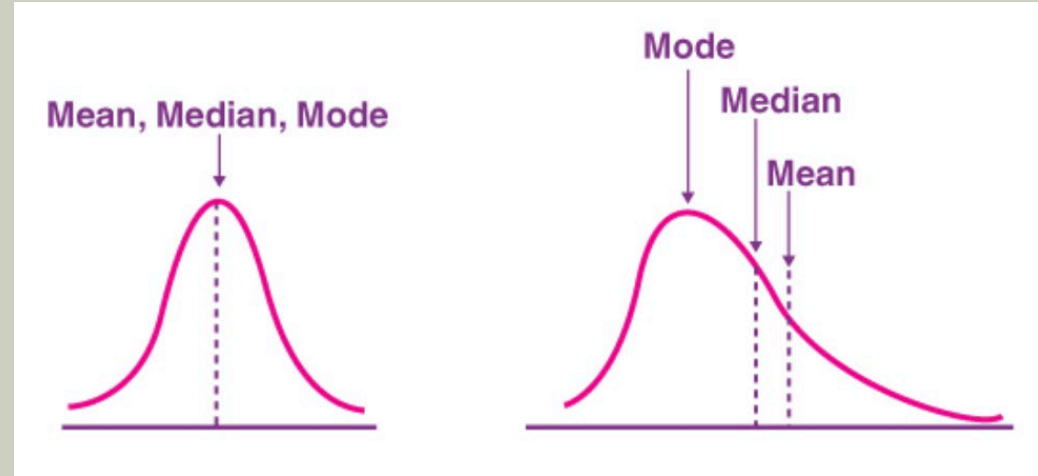
PLAN

1. Data to support Goals of Care (GOC) discussions and MOST designation
2. Prognosticating common LTC conditions
3. Anticipating End of Life (EoL) in Long Term Care (LTC)
4. Data from Fraser Health around hospital transfers and death rates

DEATH IN LONG TERM CARE

Data from Fraser Health

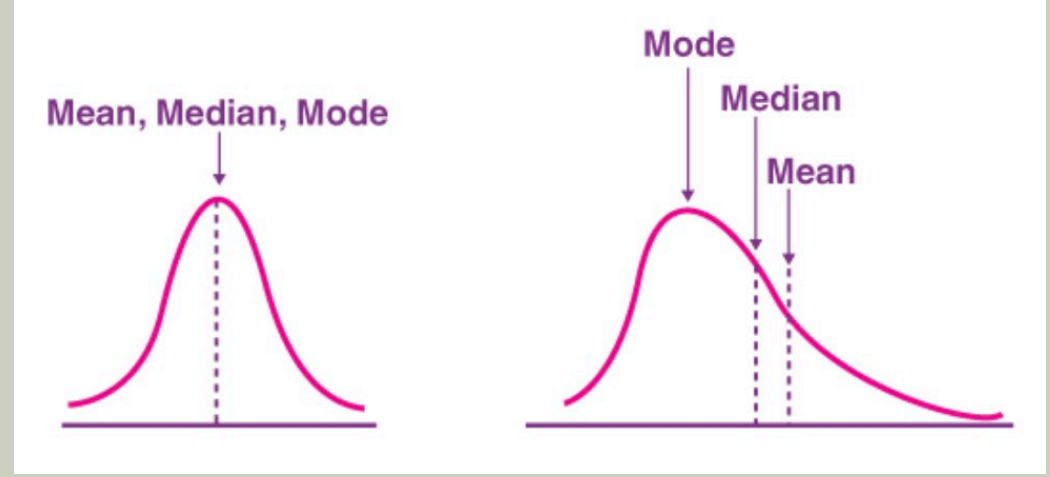
Location	Median Length of Stay
ALL FRASER HEALTH	17
ABBOTSFORD	18
BURNABY	16.5
CHILLIWACK/AGASSIZ	17
HOPE	20
LANGLEY	13
MAPLE RIDGE	23.5
MISSION	25
NEW WESTMINSTER	14
NORTH DELTA	12
SOUTH DELTA	15
SOUTH SURREY/WHITE ROCK	17
SURREY	21
TRI-CITIES	22
UNDETERMINED	2



Study: Median length of stay in Advanced Dementia = 3.0 years * US Data

MEDIAN LENGTH OF STAY IN LTC

Location	Mean Length of Stay
ALL FRASER HEALTH	28
ABBOTSFORD	28
BURNABY	28
CHILLIWACK/AGASSIZ	28
HOPE	22
LANGLEY	25
MAPLE RIDGE	35
MISSION	33
NEW WESTMINSTER	24
NORTH DELTA	24
SOUTH DELTA	25
SOUTH SURREY/WHITE ROCK	25
SURREY	33
TRI-CITIES	31
UNDETERMINED	3



AVERAGE (MEAN) LENGTH OF STAY IN LTC

TRANSFERS TO ED

In 2022, **3815 patients** were transferred to ED.

From literature (nursing home residents, n=323):

In an 18 month period, 16.7% of advanced dementia patients were hospitalized

TOP 10 CHIEF COMPLAINTS ON TRANSFER TO ED

Department	Chief Complaint	Number of Transfers
Orthopedic	Lower extremity injury, + moderate pain +/- deformity	293 (7.68%)
Respiratory	Respiratory distress, moderate	225 (5.90%)
Neurological	Altered LOC, GCS 10-13	200 (5.24%)
General & Minor	Sepsis-like Illness	188 (4.93%)
General & Minor	Medical device problem	143 (3.75%)
Respiratory	Respiratory distress, severe	117 (3.07%)
Respiratory	Respiratory distress, mild/moderate	117 (3.07%)
Gastro-Intestinal	Abdominal pain, mod pain +/- episodic vomiting	113 (2.96%)
Neurological	Head Injury, no LOC/vomiting/minor	110 (2.88%)
Neurological	Altered LOC, GCS 14-15	97 (2.54%)

TRANSFERS REPORTED BY DEPARTMENT

Department Category	Transfers
Neurological	750 (19.66%)
General & Minor	652 (17.09%)
Orthopedic	624 (16.36%)
Respiratory	526 (13.79%)
Cardiovascular	456 (11.95%)
Gastrointestinal	301 (7.89%)
Genitourinary	158 (4.14%)
Skin	117 (3.07%)
Mental Health	87 (2.28%)
Eyes, Ears, Nose, Throat	83 (2.18%)
Trauma	26 (0.68%)
OBGYN	15 (0.39%)
Substance Use	3 (0.08%)

Cardiovascular includes:

- Chest pain, red hot limb, palpitations, syncope, HTN, edema, general weakness, cardiac arrest, pulseless cool limb

General & Minor includes:

- Sepsis-like illness, fever, abnormal lab values, ILL, glycemic abnormality, anemia, IV therapy, fever, refer to specialist, imaging, post-op complications, dehydration, post-op complications, cast-checks

Neurological includes

- Altered LOC, dizziness, head injury, seizure, confusion, tremor, headache ataxia, altered gait, weak extremity, sensory abnormality

Mental health includes:

- Behavioral issues (violent, bizarre), hallucinations, anxiety, suicidality, failure to cope

Respiratory includes:

- Respiratory distress, cough, foreign body aspiration, hemoptysis

TRANSFERS REPORTED BY DEPARTMENT

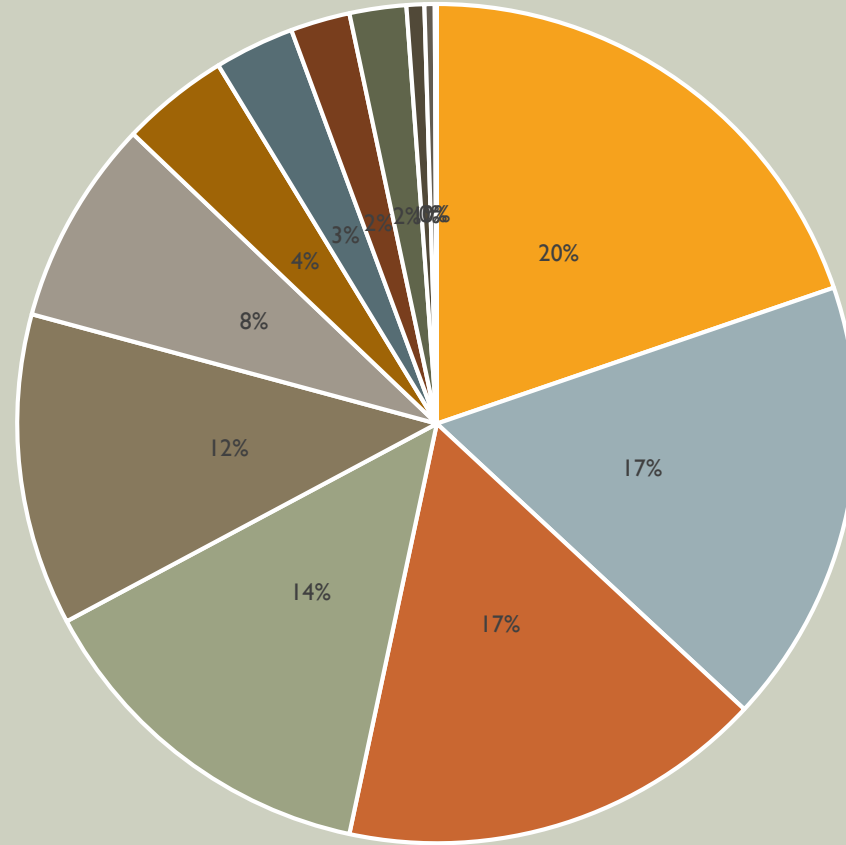
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Substance Use	3 (0.08%)

From literature (nursing home residents, n=323):

Pneumonia accounted for **68.2%** of hospitalizations

- Other infections 13.6%
- Heart failure 9.1%
- Hip fracture 4.5%
- Dehydration 4.5%

TRANSFERS REPORTED BY DEPARTMENT



Neurological
Cardiovascular
Mental Health
Substance Use

General & Minor
Gastrointestinal
Eyes, Ears, Nose, Throat
Trauma

Orthopedic
Genitourinary
Respiratory
Skin
OBGYN

TRANSFERS TO ED IN LITERATURE

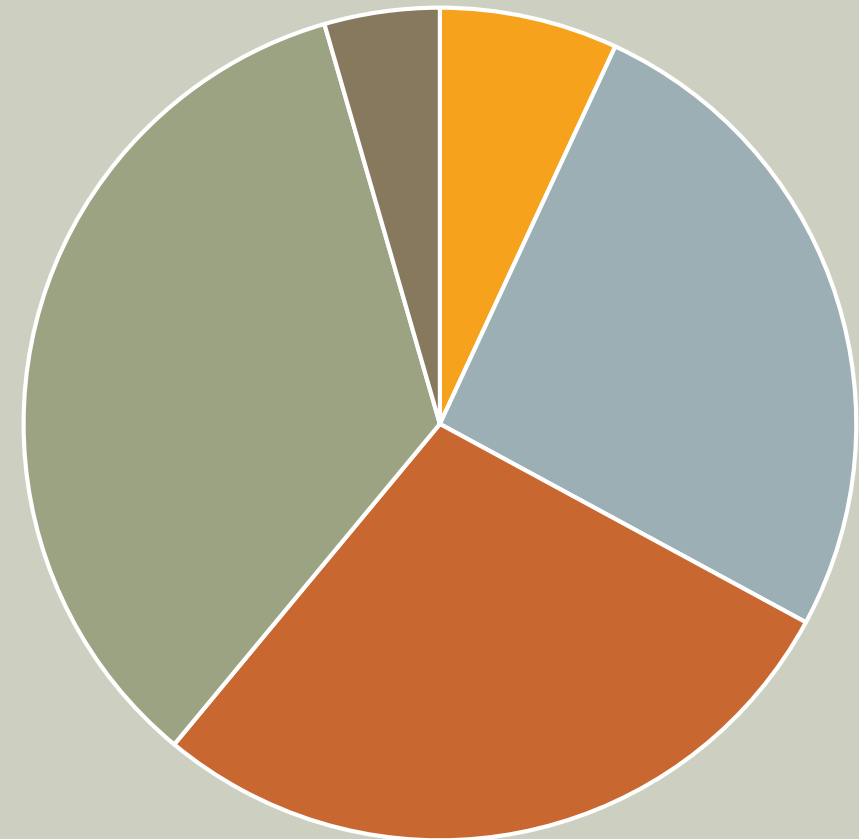
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Trauma	26 (0.68%)
OBGYN	15 (0.39%)
Substance Use	3 (0.08%)

Table 1. Reasons for transfer of RACF residents to ED

	Proportion of total presentations
Respiratory tract disease	12–37% [5, 6, 8, 10, 16, 26, 29, 32, 37, 45, 47, 50, 71]
Fall-related presentations	12–23% [8, 10, 14, 35, 46, 47, 50]
Fractures and orthopaedic injuries	6.7–24% [8, 16, 26, 29, 35, 37, 82]
Cardiovascular illness	11–28% [5, 6, 10, 16, 26, 29, 32, 35, 37, 47, 71]
Infection	5.3–24% [6, 14, 29, 82]
Altered mental state	7.2–12% [5, 35, 46, 50]
Device (usually PEG tube or IDC)-related complication	2.3–10% [37, 46, 47, 50]

TRANSFERS REPORTED BY CTAS

	Number of patients transferred (%)
CTAS 1 (Resuscitation)	263 (6.89%)
CTAS 2 (Emergent)	987 (25.87%)
CTAS 3 (Urgent)	1068 (27.99%)
CTAS 4 (Less Urgent)	1311 (34.36%)
CTAS 5 (Non Urgent)	170 (4.46%)



■ CTAS 1 ■ CTAS 2 ■ CTAS 3 ■ CTAS 4 ■ CTAS 5

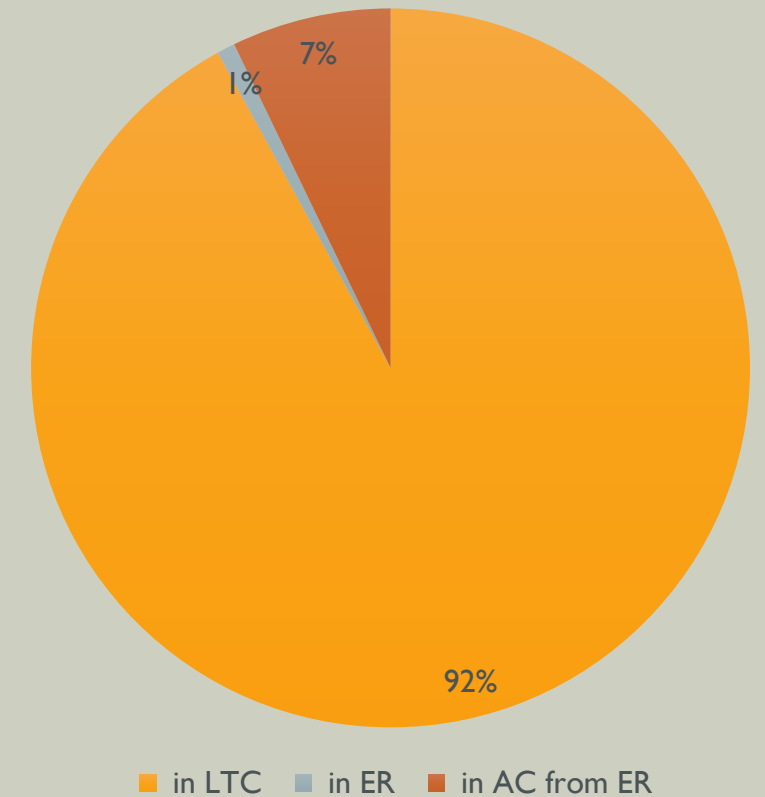
TRANSFERS TO ED BY CTAS IN LITERATURE

	Number of patients transferred (%)
CTAS 1 (Resuscitation)	263 (6.89%)
CTAS 2 (Emergent)	987 (25.87%)
CTAS 3 (Urgent)	1068 (27.99%)
CTAS 4 (Less Urgent)	1311 (34.36%)
CTAS 5 (Non Urgent)	170 (4.46%)

	Systematic Review Percentage Transfers
CTAS 1 & 2 (Resuscitation, Emergent)	4-36%
CTAS 3 (Urgent)	49-80%
CTAS 4 & 5 (Semi urgent, Non urgent)	15-35%

Location	Deaths	Death in LTC	Death in ED	Death in AC via ED
ALL FRASER HEALTH	877	796 (90.76%)	7 (0.80%)	62 (7.07%)
ABBOTSFORD	89	82	0	7
BURNABY	136	120	1	15
CHILLIWACK/AGASSIZ	66	59	1	5
HOPE	7	6	0	1
LANGLEY	70	64	1	4
MAPLE RIDGE	35	33	0	1
MISSION	30	29	0	1
NEW WESTMINSTER	35	30	2	2
NORTH DELTA	18	18	0	0
SOUTH DELTA	54	52	0	2
SOUTH SURREY/WHITE ROCK	123	117	0	5
SURREY	126	108	1	12
TRI-CITIES	79	69	1	7
UNDETERMINED	9	9	0	0

LOCATION OF DEATH

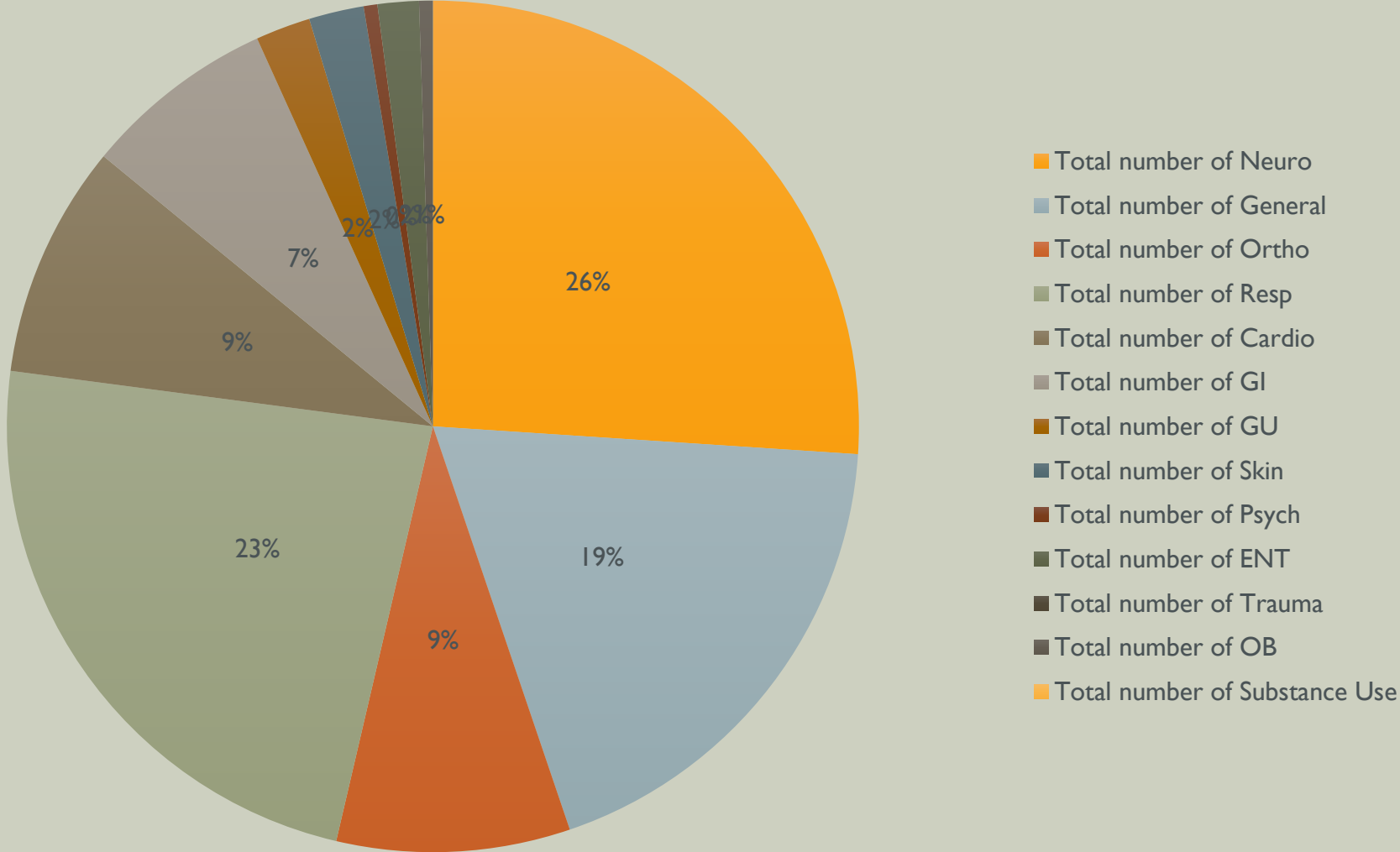


Across FH 85-100% died in LTC.

DEATHS AFTER TRANSFER REPORTED BY DEPARTMENT

	Number of transfers (%)	Number of deaths (%)	Deaths as % of transfers of that type
Neurological	750 (19.66%)	50 (26.04%)	6.67%
General & Minor	652 (17.09%)	36 (18.75%)	5.52%
Orthopedic	624 (16.36%)	17 (8.85%)	2.72%
Respiratory	526 (13.79%)	45 (23.44%)	8.56%
Cardiovascular	456 (11.95%)	17 (8.85%)	3.73%
Gastrointestinal	301 (7.89%)	14 (7.29%)	4.65%
Genitourinary	158 (4.14%)	4 (2.08%)	2.53%
Skin	117 (3.07%)	4 (2.08%)	3.42%
Mental Health	87 (2.28%)	1 (0.52%)	1.15%
Eyes, Ears, Nose, Throat	83 (2.18%)	3 (1.56%)	3.61%
Trauma	26 (0.68%)	0 (0.00%)	0.00%
OBGYN	15 (0.39%)	1 (0.52%)	6.67%
Substance Use	3 (0.08%)	0 (0.00%)	0.00%

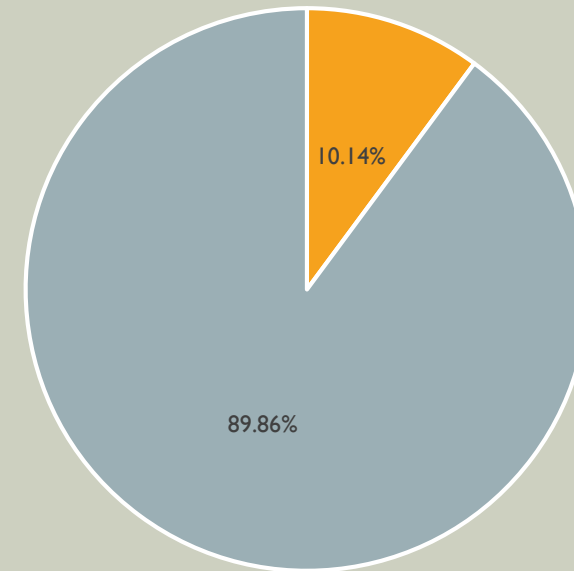
DEATHS REPORTED BY DEPARTMENT



LOCATION OF DEATH REPORTED BY DEPARTMENT

	total # deaths (%)	# died in ED (%)	# died in AC (%)
All transferred deaths	69 (n/a)	7 (10.14%)	62 (89.86%)
Respiratory	22 (31.88%)	3 (13.64%)	19 (86.36%)
Neurological	20 (28.99%)	1 (5.00%)	19 (95.00%)
General & Minor	13 (18.84%)	2 (15.38%)	11 (84.62%)
Orthopedic	6 (8.70%)	0 (0.00%)	6 (100.00%)
Cardiovascular	5 (7.25%)	1 (20.00%)	4 (80.00%)
Gastrointestinal	3 (4.35%)	0 (0.00%)	3 (100.00%)

Location of Death after Transfer



■ % dead in ED
 ■ % dead in AC

LOCATION OF DEATHS, PERCENTAGE OF TRANSFERRED

		% of deaths	% transferred
Total deaths	69	n/a	1.81%
Died In ED	7	10.14%	0.18%
Died In AC	62	89.86%	1.63%

From literature (systematic review), regarding RACF resident transfers:

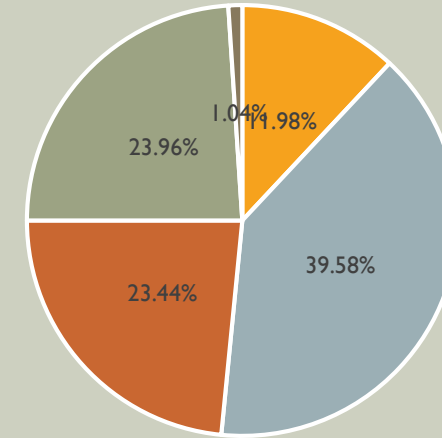
1–5% of residents transferred to hospital died in the ED

5–34% died in hospital

DEATHS REPORTED BY CTAS

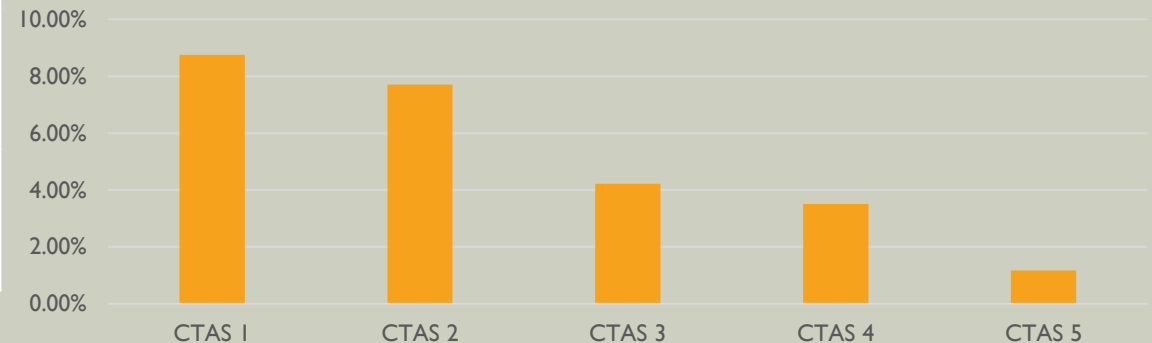
	Total number transferred	# died	% total deaths	% transferred died
CTAS 1 (Resuscitation)	263 (6.89%)	23	11.98%	8.75%
CTAS 2 (Emergent)	987 (25.87%)	76	39.58%	7.70%
CTAS 3 (Urgent)	1068 (27.99%)	45	23.44%	4.21%
CTAS 4 (Less Urgent)	1311 (34.36%)	46	23.96%	3.51%
CTAS 5 (Non Urgent)	170 (4.46%)	2	1.04%	1.18%

% Total Deaths



CTAS 1 CTAS 2 CTAS 3 CTAS 4 CTAS 5

Percentage of Transfers that Died



ACKNOWLEDGEMENTS

Dr. Belinda Robinson (Rodis) for her slides on prognosticating death.

Ron Kelly, Janice Sorensen for assistance with data acquisition.

Dr. Amber Jarvie for supervision and mentorship.