
# Palliative Medicine in the ICU

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September 9, 2023

# Goals of Presentation

- Palliative care in the ICU
  - Models
  - Types of interventions
- Impact of communication
  - Trust
  - Setting expectations
- Ventilator
  - Time limited trials
  - Terminal wean and extubation
- Quick Fire: Roles of antibiotics

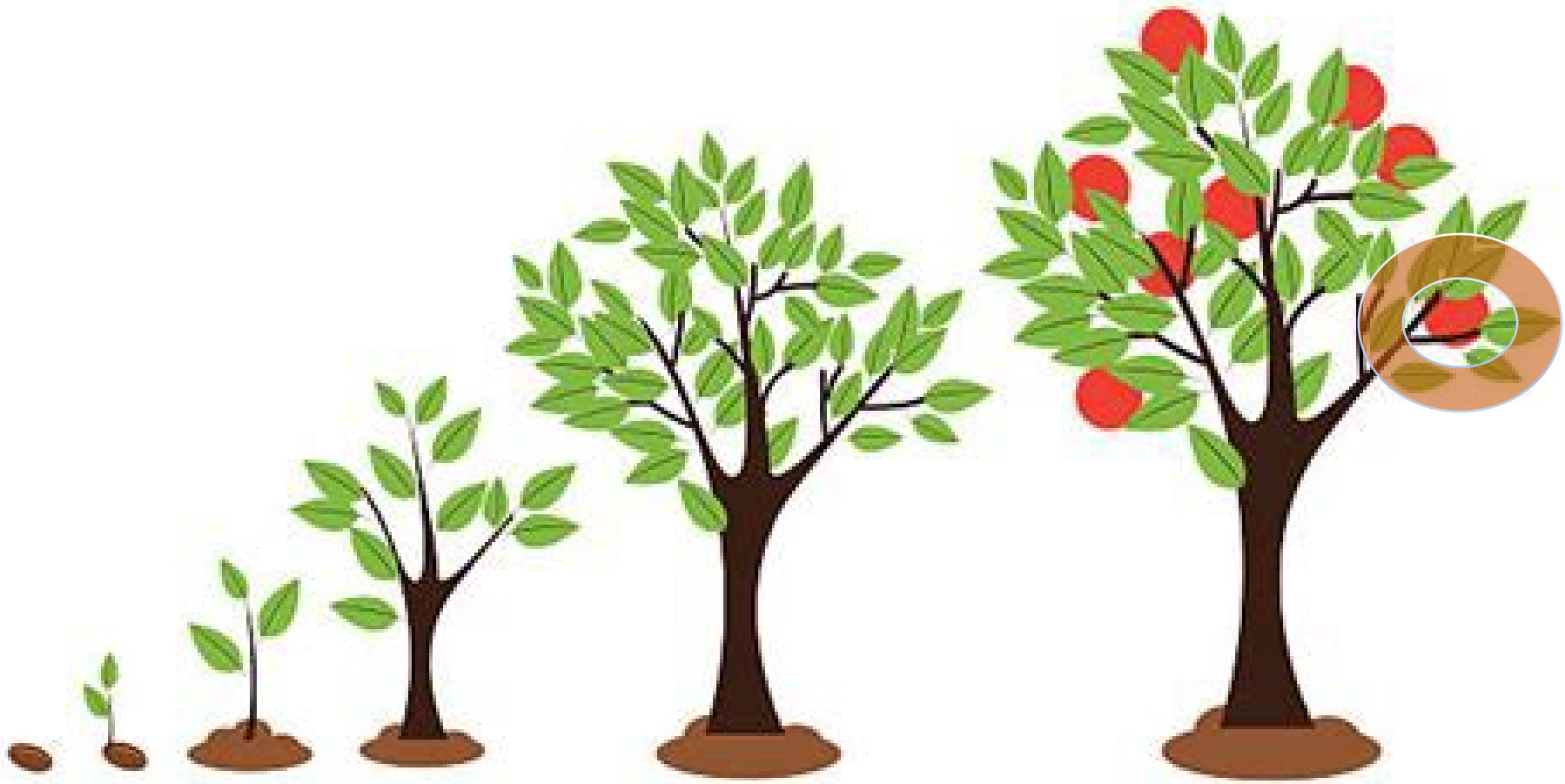
# Palliative Care

- Improves QUALITY of LIFE (adults/children)

  ***Symptom management:*** *acute or chronic, any stage*

  *Psychosocial, cultural emotional, spiritual*

- PREVENTS and RELIEVES suffering
  - Those with chronic illness: cardiac (38.5%), cancer (34%), chronic respiratory disease (10.3%)
- Bridge communication with specialist
- Insufficient ACCESS, 56.8 million people in need



# Palliative care in the ICU

Physician dichotomy – to save lives vs palliation

- Perception of palliative goal contradict mission
- Forgoing intensive life saving treatment

Patients 80% experience fatigue, 85% thirst, 60% pain, and 75% weight loss.

Symptoms can persist for months or years

Both methods of care CAN exist in parallel.

# Models of Palliative Care in the ICU

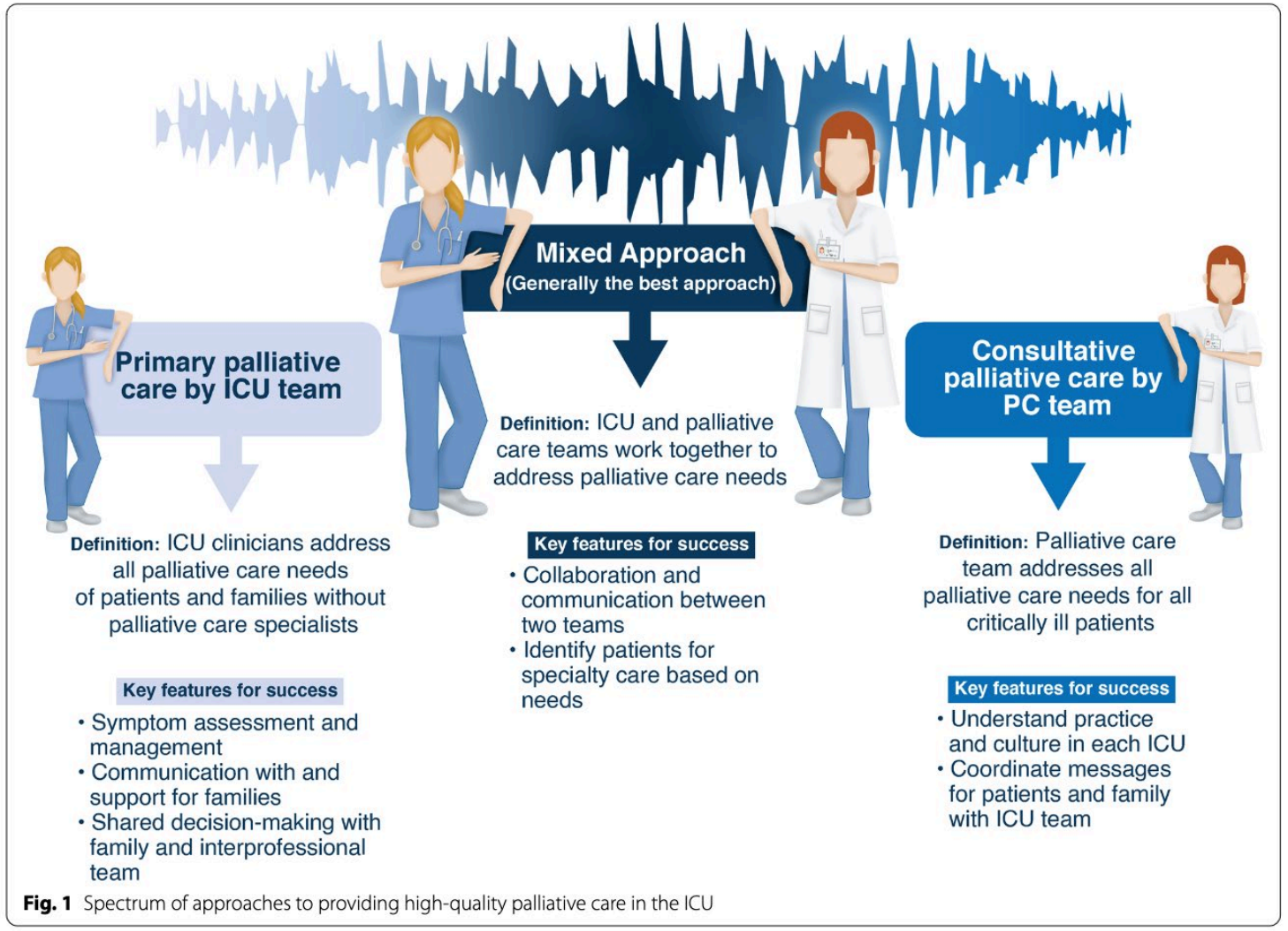
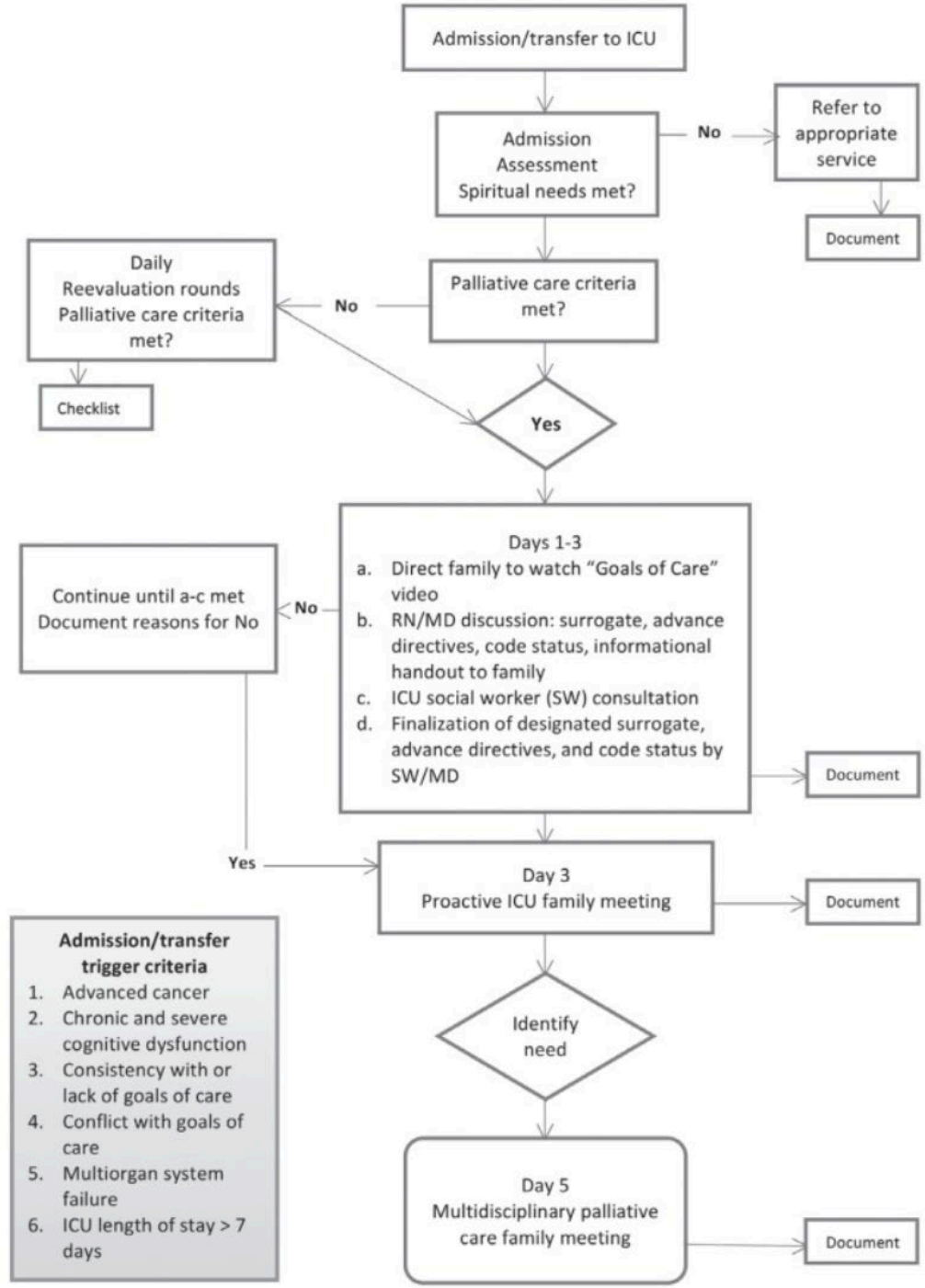



**Fig. 1** Spectrum of approaches to providing high-quality palliative care in the ICU

- Decrease critical care use at the end of life
- Reduction of length of stay
- Cost effective
  - ICU, pharmacy

Barriers and risks of the implementation of the palliative care in the intensive care unit

| Barriers |
| --- |
| Critical care clinicians are not aware of the palliative care needs of ICU patients due to competing demand |
| Inadequate palliative care screening for ICU patients |
| Difficulty in communicating adequately with the patient's family at the right time |
| Clinician concerns regarding palliative care hastening death |
| Inadequate palliative care training for ICU medical staff |
| Palliative care staff unavailability |
| Patient/family misconception of palliative care |
| Time and cost to train critical care clinicians for the palliative care |


Admission/transfer to ICU
Admission Assessment Spiritual needs met?
No
Refer to appropriate service
Document
Daily Reevaluation rounds Palliative care criteria met?
No
Palliative care criteria met?
Checklist
Yes
Days 1-3
a. Direct family to watch "Goals of Care" video
b. RN/MD discussion: surrogate, advance directives, code status, informational handout to family
c. ICU social worker (SW) consultation
d. Finalization of designated surrogate, advance directives, and code status by SW/MD
Continue until a-c met Document reasons for No
No
Document
Yes
Day 3 Proactive ICU family meeting
Document
Identify need
Day 5 Multidisciplinary palliative care family meeting
Document
Admission/transfer trigger criteria
1. Advanced cancer
2. Chronic and severe cognitive dysfunction
3. Consistency with or lack of goals of care
4. Conflict with goals of care
5. Multiorgan system failure
6. ICU length of stay > 7 days

The Economist

In 2017, The Economist published an article studying what people want in the final months.

What ranked TOP 3 in the United States?

# Personal Priorities for Death

Percent who say each of the following is "extremely important" to them when thinking about their own death:

| RANK | JAPAN | ITALY | UNITED STATES | BRAZIL |
|---|---|---|---|---|
| 1 | Family not burdened financially (59%) | Having loved ones around (34%) | Family not burdened financially (54%) | Being at peace spiritually (40%) |
| 2 | Being at peace spiritually (55%) | Making sure wishes for care are followed (32%) | Making sure wishes for care are followed (49%) | Being comfortable and without pain (32%) |
| 3 | Family not burdened by care decisions (54%) | Being comfortable and without pain (31%) | Having loved ones around (48%) | Having loved ones around (30%) |
| 4 | Being comfortable and without pain (47%) | Family not burdened financially (30%) | Being at peace spiritually (46%) | Living as long as possible (26%) |
| 5 | Having loved ones around (47%) | Being at peace spiritually (25%) | Family not burdened by care decisions (44%) | Family not burdened financially (24%) |
| 6 | Making sure wishes for care are followed (41%) | Family not burdened by care decisions (24%) | Being comfortable and without pain (42%) | Making sure wishes for care are followed (24%) |
| 7 | Living as long as possible (10%) | Living as long as possible (14%) | Living as long as possible (23%) | Family not burdened by care decisions (22%) |

NOTE: Question wording abbreviated. See topline for full question wording.
SOURCE: Kaiser Family Foundation/The Economist Four-Country Survey of Aging and End-of-Life Medical Care (conducted March-November 2016)

- Otto is 72 years old
- Lives by himself, independent
- ER visit because of a cold for the last 5 days.
- Sore throat, fever, night sweat, poor appetite.
- He’s retired. Generally healthy except for high blood pressure and cholesterol
- Vitals: RR: 22, HR 98, Oxygen saturations: 92% on 4L via NC, BP: 110/65
- He appears grumpy, doesn’t answer questions, and diaphoretic.

Critical Care Medicine
Society of Critical Care Medicine

# One-Year Functional Outcomes After Invasive Mechanical Ventilation for Older Adults With Preexisting Long-Term Care-Needs*

Ohbe, Hiroyuki MD[1]; Ouchi, Kei MD[2–5]; Miyamoto, Yuki MD[6]; Ishigami, Yuichiro MD[7]; Matsui, Hiroki MPH[1]; Yasunaga, Hideo PhD[1]; Sasabuchi, Yusuke PhD[8]

*Critical Care Medicine* 51(5):p 584-593, May 2023.

# Study

- Population based cohort study in Japan
- Data collection between 2014-2018 of those who received MV
- Groups:
  1. No care-needs
  2. Level 1-2 independent with minor assistance
  3. Level 2-3, partial dependence
  4. Level 4-5  complete dependence

# Outcome

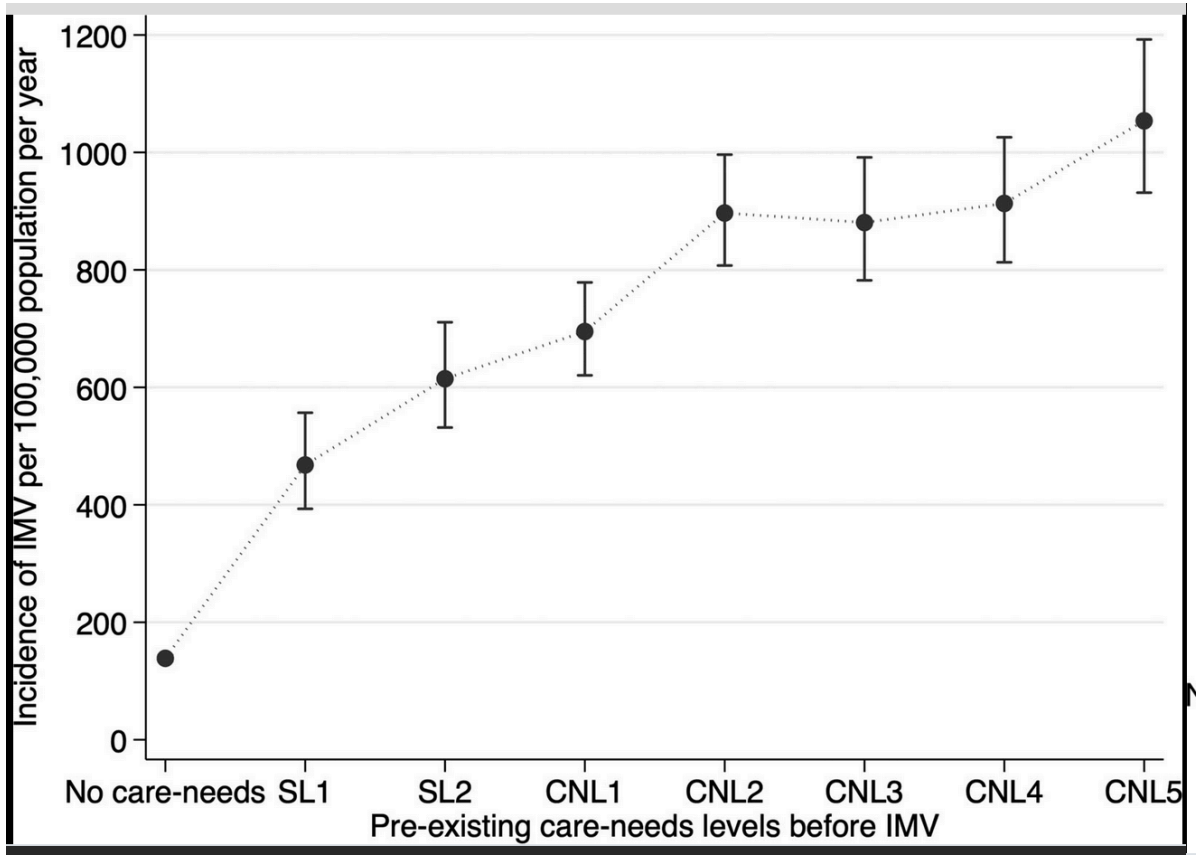
- Primary: Measure care needs at 1 year AFTER invasive mechanical ventilation (MV)

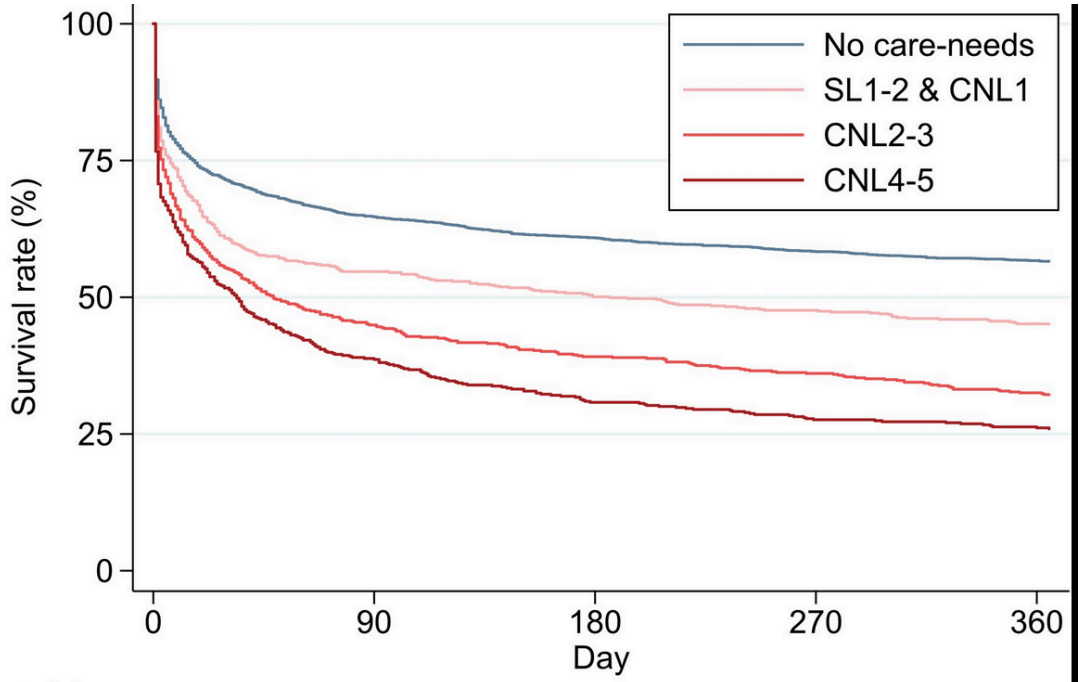
- Secondary: death during first hospitalization and change in care needs after 1 year of MV

# Results

- 593,990 met criteria but 4198 ( 0.7%) received MV with mean age **81.2, 55.%** were male
- Higher pre-existing care needs were LESS likely to receive intensive treatment
- Overall 1-year mortality post MV ~52.6%
  - No needs: 43.4%, level 1-2:54.9, level 2-3: 67.8% and level 4-5: 74.1%

# Results

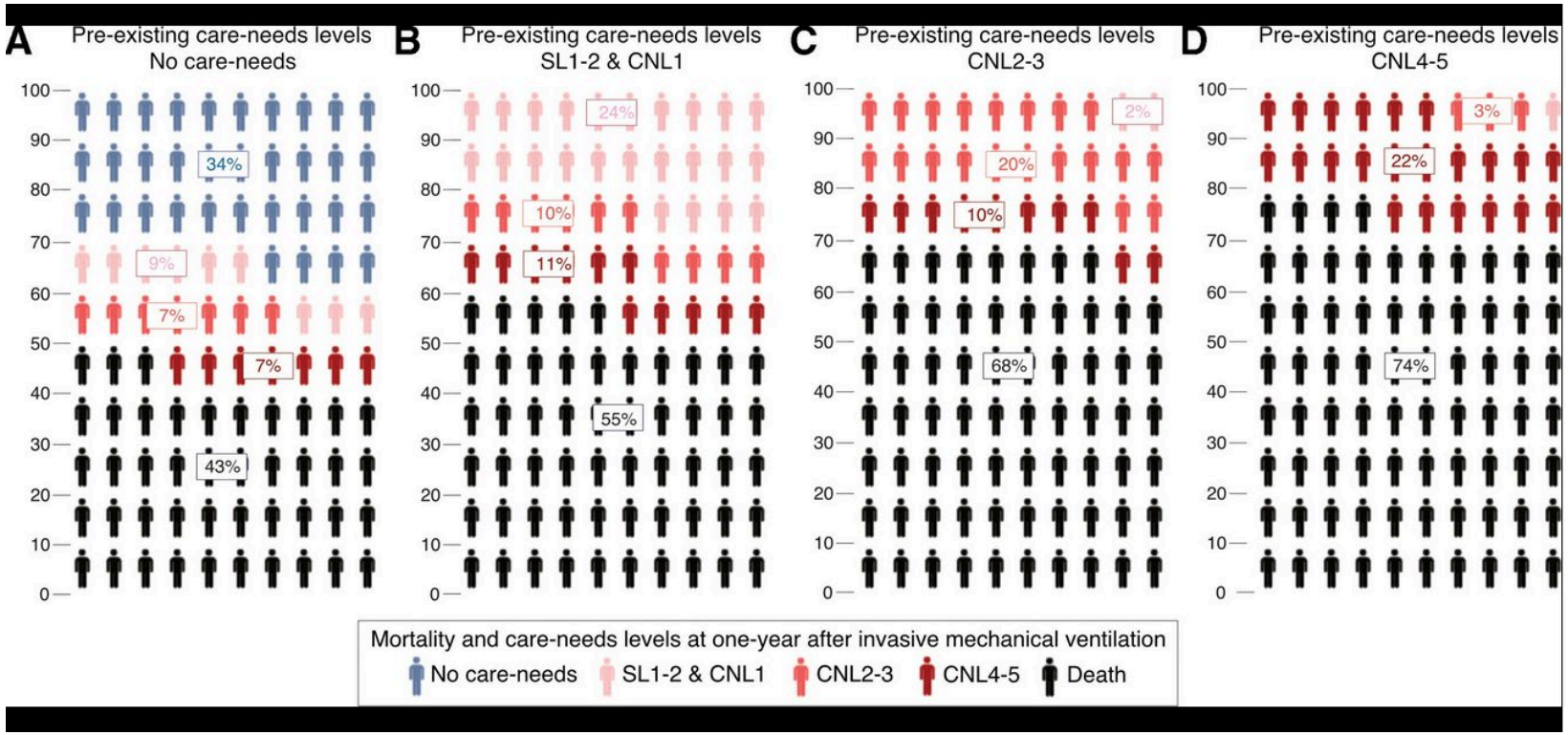


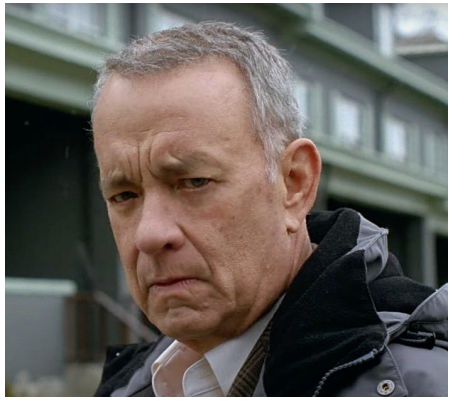

Number at risk

| | | | | | |
|---|---|---|---|---|---|
| No care-needs | 2434 | 1576 | 1482 | 1421 | 1380 |
| SL1-2 & CNL1 | 607 | 332 | 304 | 289 | 274 |
| CNL2-3 | 621 | 279 | 243 | 224 | 202 |
| CNL4-5 | 536 | 208 | 165 | 148 | 141 |

# Results


A
Pre-existing care-needs levels
No care-needs
34%
9%
7%
7%
43%
B
Pre-existing care-needs levels
SL1-2 & CNL1
24%
10%
11%
55%
C
Pre-existing care-needs levels
CNL2-3
2%
20%
10%
68%
D
Pre-existing care-needs levels
CNL4-5
3%
22%
74%
100
90
80
70
60
50
40
30
20
10
0
Mortality and care-needs levels at one-year after invasive mechanical ventilation
No care-needs
SL1-2 & CNL1
CNL2-3
CNL4-5
Death

- Doesn’t sound bad, I have NO CARE NEEDS.



CRITICAL CARE ■

## Is There an Association Between Health Expectations and Quality of Life Among Survivors of Acute Respiratory Failure?

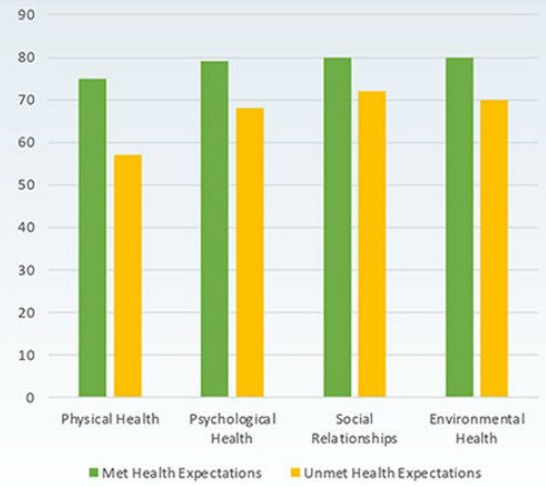
CHEST

### STUDY DESIGN

- **Prospective longitudinal cohort study** of adults with acute respiratory failure (ARF) in ICUs at six hospitals
- Survivors receiving **invasive and/or noninvasive ventilation** for >24 hours were included
- **Primary outcome** was self-reported quality of life (QoL) at the 6-month follow-up

### RESULTS

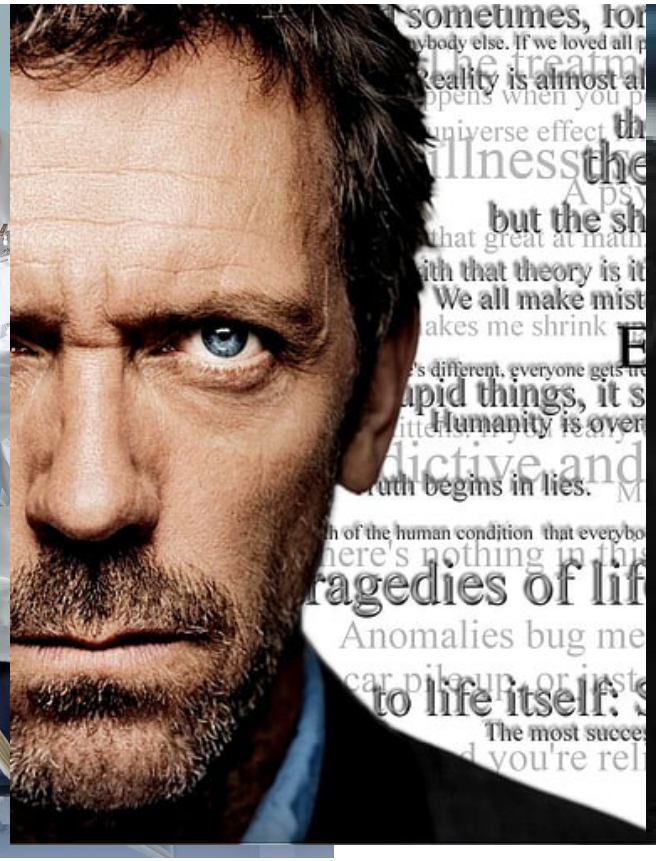
Quality of Life in Expected vs Perceived Health at 6 Months


QoL was significantly better among study participants whose health expectations were met vs unmet, even when overall health was perceived similarly 6 months after hospital discharge.

Turnbull A, et al. *CHEST* March 2023 | @journal_CHEST | https://doi.org/10.1016/j.chest.2023.01.016

# Things get worse…




# Communication and Trust

- English is her second language
  - Understands fluently
- Hasn’t known Otto for very long
  - Often brings him food, or he goes over for dinner
- Closest person to him at this moment…
  - Confirmed by investigation

CHEST JOURNAL

# Association Between Shared Decision-Making During Family Meetings and Surrogates' Trust in Their ICU Physician

Taylor E Lincoln [1], Praewpannarai Buddadhumaruk [2], Robert M Arnold [3], Leslie P Scheunemann [4], Natalie C Ernecoff [5], Chung-Chou H Chang [6], Shannon S Carson [7], Catherine L Hough [8], J Randall Curtis [9], Wendy Anderson [10], Jay Steingrub [11], Michael W Peterson [12], Bernard Lo [12], Michael A Matthay [13], Douglas B White [2]

- Background: How to promote surrogates' trust of ICU physicians

- Objective: Conduct of family conference and physician's use of shared decision-making impact surrogates' trust in physician?

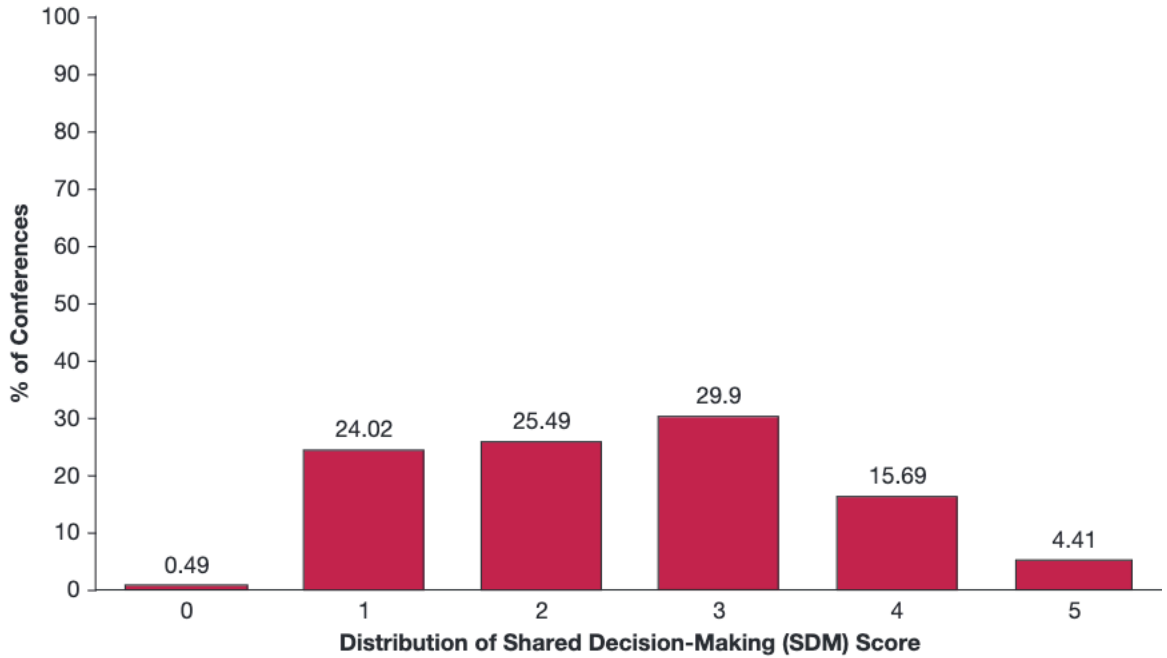
| Element of Shared Decision-Making | Description of Physician Behavior | Example of Coded Behavior |
|---|---|---|
| Elicit or assess understanding | Asks the surrogate to state his/her general or prognosis-specific understanding of the situation | "Why don't you tell me about your understanding of your mother's condition and I will fill in the gaps." |
| Explain the patient's medical condition or prognosis | Any statement that tells about, comments on, or predicts any domain regarding the patient's future | "I think we will simply be causing him more pain without doing any good." |
| Provide emotional support | Expresses empathy to the family regarding the surrogate's situation. Reflects the internal state of the family, as opposed to empathy regarding the patient's situation or medical situation | "I know this was unexpected. It makes it more difficult when you aren't prepared to make these decisions." |
| Explain surrogate decision-making role | Discusses how surrogate decision-making happens or ought to happen. Explains principles of surrogate decision-making or discusses permission to follow the patient's wishes | "It is important to focus on what your father would hope for, given what is going on medically." |
| Elicit patient's values, goals, and preferences | Patient-focused questions inquiring about the patient's past statements about what treatments may be acceptable to them (preferences) or patient's attitudes, opinions, beliefs, or feelings about what is important, including hopes and concerns for the future (values) | "I guess I wanted to get a sense from you, what kind of a man he is and what his feelings about being kept alive on life support would be. Can you tell me a little bit about him?" |

- Results: Nearly 50% of surrogates considered religion very important
- Factors associated with trust:
  - surrogates age
  - health literacy
  - relationship with patient
  - male physician

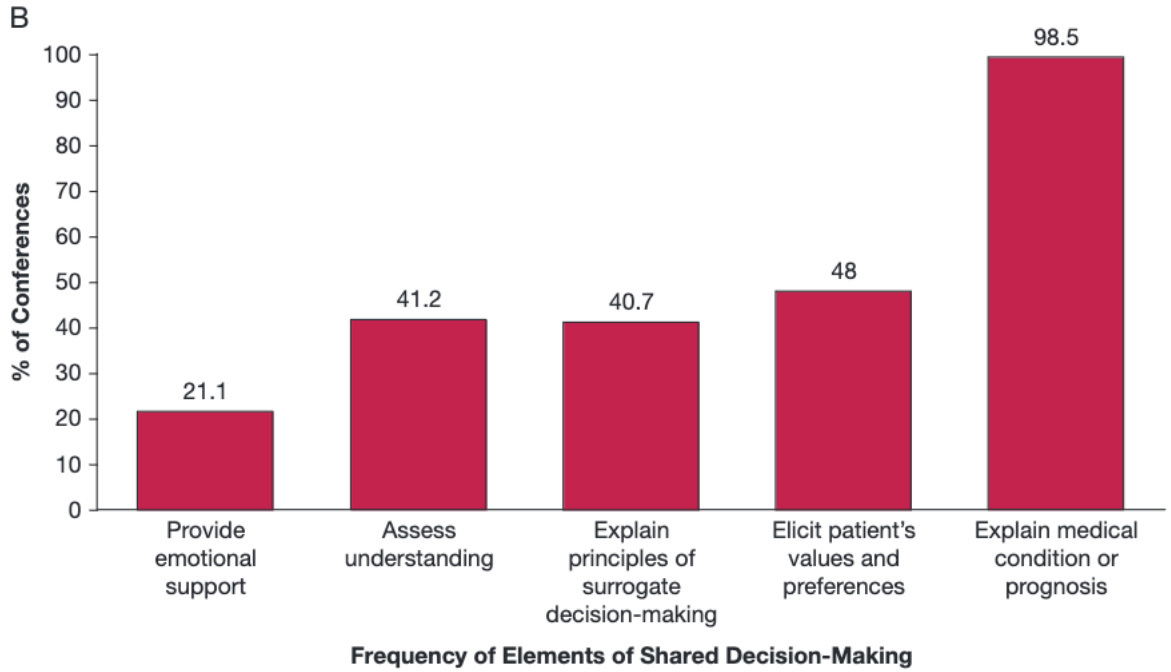
# Results

- Male physician had significantly lower baseline trust scores
- Larger trust increased, with similar post conference scores
- No influence on race
- Surrogates of Hispanic ethnicity had lower baseline trust

A


100
90
80
70
60
50
40
30
20
10
0
% of Conferences
0.49
24.02
25.49
29.9
15.69
4.41
0
1
2
3
4
5
Distribution of Shared Decision-Making (SDM) Score

B


100
90
80
70
60
50
40
30
20
10
0
% of Conferences
21.1
41.2
40.7
48
98.5
Provide emotional support
Assess understanding
Explain principles of surrogate decision-making
Elicit patient's values and preferences
Explain medical condition or prognosis
Frequency of Elements of Shared Decision-Making

HUMANITIES

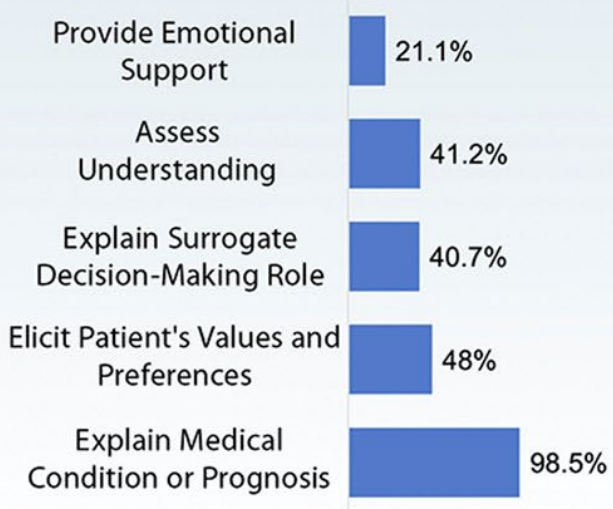
# Does the Conduct of Family Conferences and Physicians' Use of Shared Decision-Making Impact Surrogates' Trust?

## STUDY DESIGN

- **Mixed-methods secondary analysis** of a **multicenter prospective cohort study** of 369 surrogate decision-makers of 204 decisionally incapacitated patients at high risk of death or severe functional impairment in the ICU
- Surrogates completed Abbreviated Wake Forest Physician Trust Scale before and after an audio-recorded family conference

## RESULTS

**Frequency of Elements of Shared Decision-Making (SDM)**



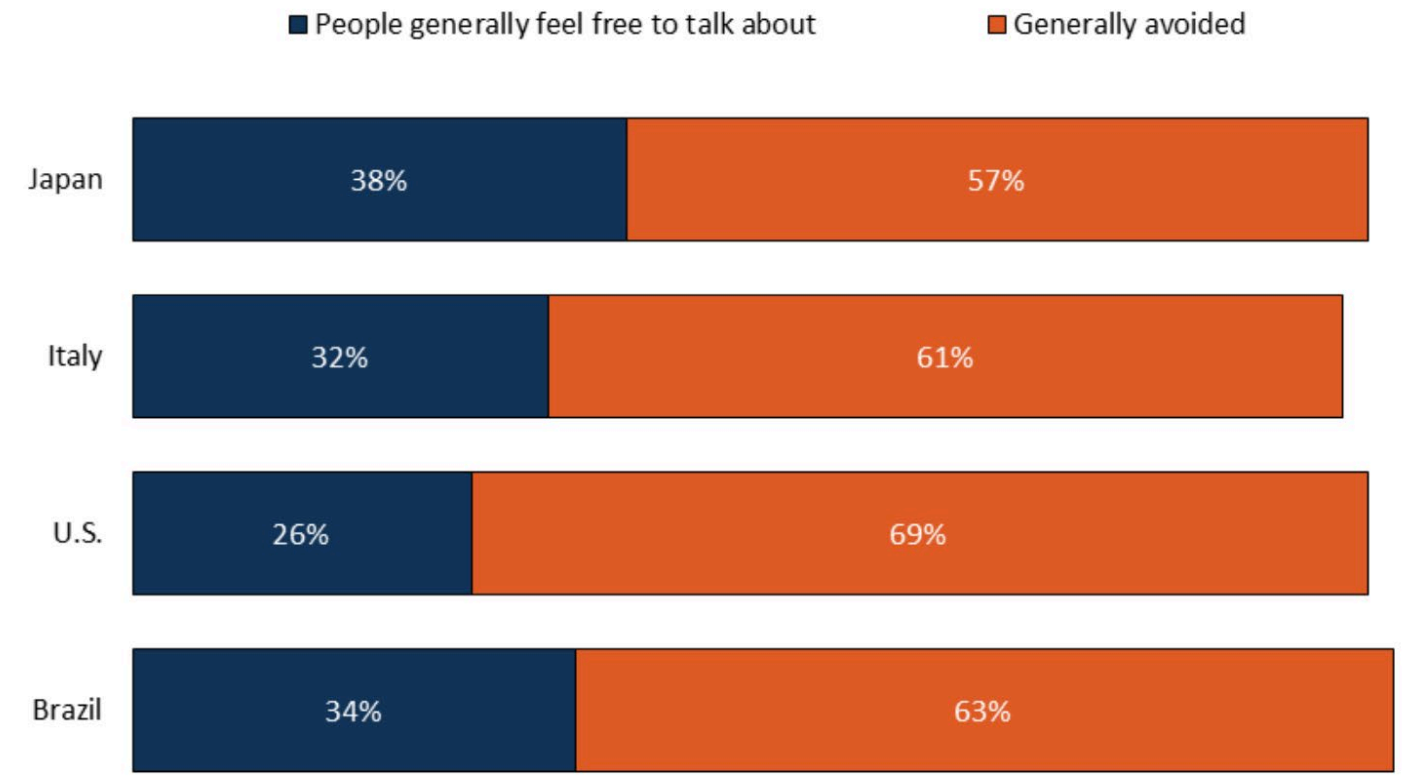

- Conducting a family meeting was associated with an average increase in trust scores of 0.91 point (95% CI, 0.4-1.4; $P < .01$)
- Every additional element of SDM during the family meeting was associated with a 0.37-point increase in trust (95% CI, 0.08-0.67; $P = .01$)

**The conduct of family meetings and the physicians' use of SDM behaviors during meetings were both associated with increases in surrogates' trust in the treating physician.**

Lincoln T, et al. *CHEST* May 2023 | @journal_CHEST | https://doi.org/10.1016/j.chest.2022.10.028

# Across Countries, Public Says Death Is a Subject People Generally Avoid

In your country's society, is death a subject that people generally feel free to talk about, or is it a subject that is generally avoided?

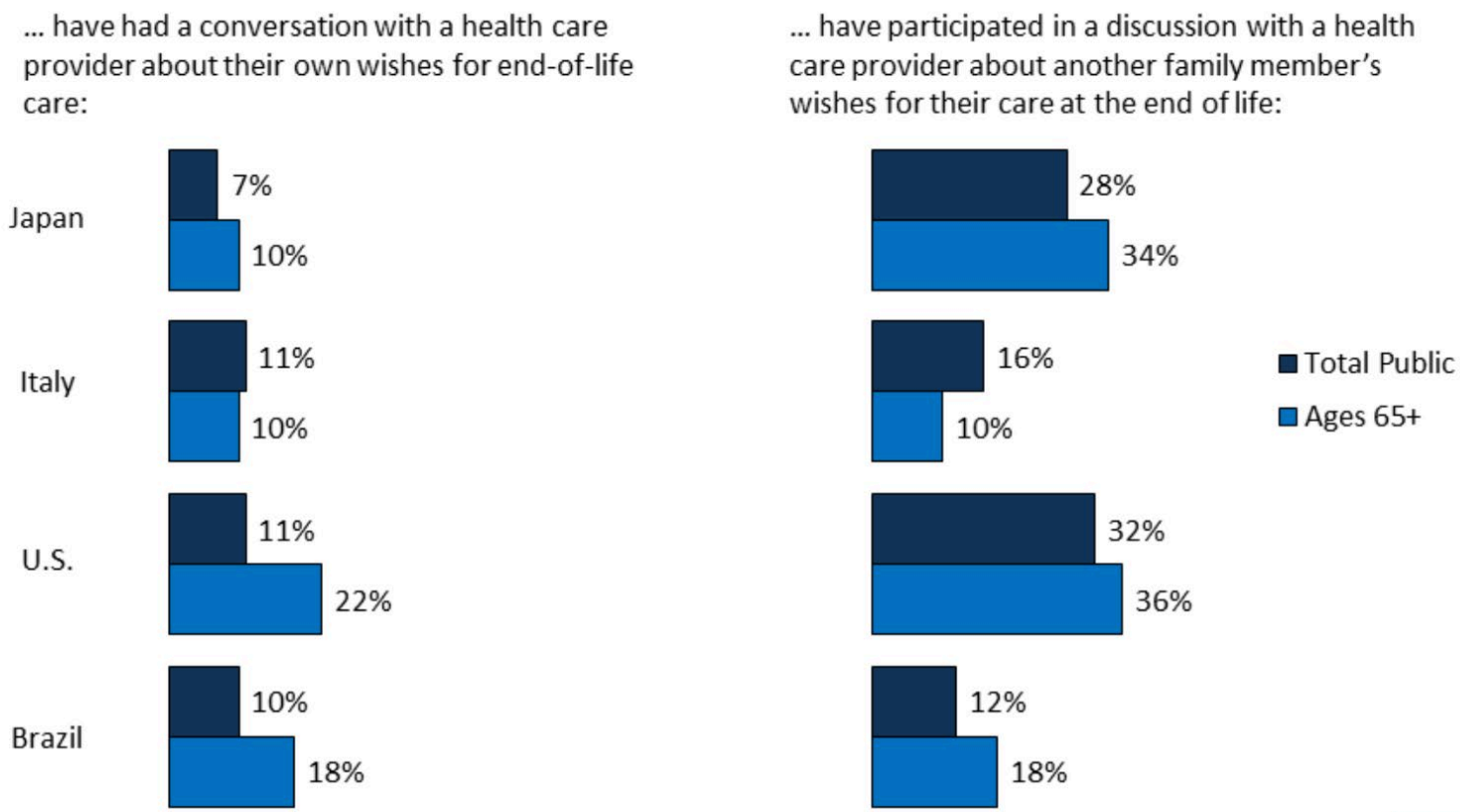



NOTE: Not sure/No answer response not shown.
SOURCE: Kaiser Family Foundation/The Economist Four-Country Survey of Aging and End-of-Life Medical Care (conducted March-November 2016)

THE HENRY J. KAISER FAMILY FOUNDATION

# Few Have Discussed Their Own End-of-Life Wishes with a Doctor or Other Health Care Provider

Percent who say they…




NOTE: Question wording abbreviated. See topline for full question wording.
SOURCE: Kaiser Family Foundation/The Economist Four-Country Survey of Aging and End-of-Life Medical Care (conducted March-November 2016)

THE HENRY J. KAISER FAMILY FOUNDATION

# Spiral of Doom

- Otto’s condition continues to get worse.
- After further discussion, Marisol and her family want a better understanding of mechanical ventilator support…

# Time- Limited Trials (TLT)

- Benefits: improve prognostication and build trust and consensus between family and intensivists.
  - Decrease ICU utilization with no change in mortality
- Poorly defined trials → conflict and continuation of unnecessary treatment
- Provides patients and family time to fully appreciate burden of invasive interventions
- Indications:
  - Delineated patient goals
  - Physician uncertain about intervention

| Skill | Example Language | Pearls |
|---|---|---|
| Truth | "Right now, I hope that the ventilator helps your father's lungs recover from this pneumonia. I also worry that despite the best medical care we can give him, his lungs may not recover and he may die from this infection. At this time, I simply don't know. I recommend that we continue the ventilator to give us more time to see if his lungs can improve. What do you think about that?" | • Use broad language at first<br>• Make it clear that the intervention may not make the patient better<br>• Combining hope and worry can be helpful<br>• Avoid medical jargon |
| Interval | "After one week on the ventilator, we will be able to say with more certainty if the ventilator and antibiotics are helping your father. Today is day two of ventilator support." | • Be specific when starting the trial<br>• The interval can change if the clinical trajectory changes |
| Measurement | "I will be looking at the whole medical picture every day. Specifically, regarding the ventilator, I expect to see slow decreases in the amount of work the ventilator is doing for him if his lungs are improving."<br>"Would it be helpful for me to share the numbers I follow to gauge the work of the ventilator? Ultimately, we are looking for him to be able to support his own breathing, which means we can remove the breathing tube and get him one step closer to going back home." | • Tailor language to patient and family<br>• Follow detail with interpretation of what that means for the patient's overall condition<br>• Ask about preferences for detail |
| End or extend | "If he is still on the ventilator at the end of one week and we see these improvements, then I may recommend extending the time on the ventilator for a few more days. If, despite our best efforts, his body doesn't get better or other organs start to shut down, I promise to be transparent with you about what I am seeing. I will recommend that we continue to care for him by shifting our interventions to respect his dignity, relieve his suffering, and allow him to die peacefully." | • Withdrawal of life support is not "withdrawal of care" |

## During TLT:

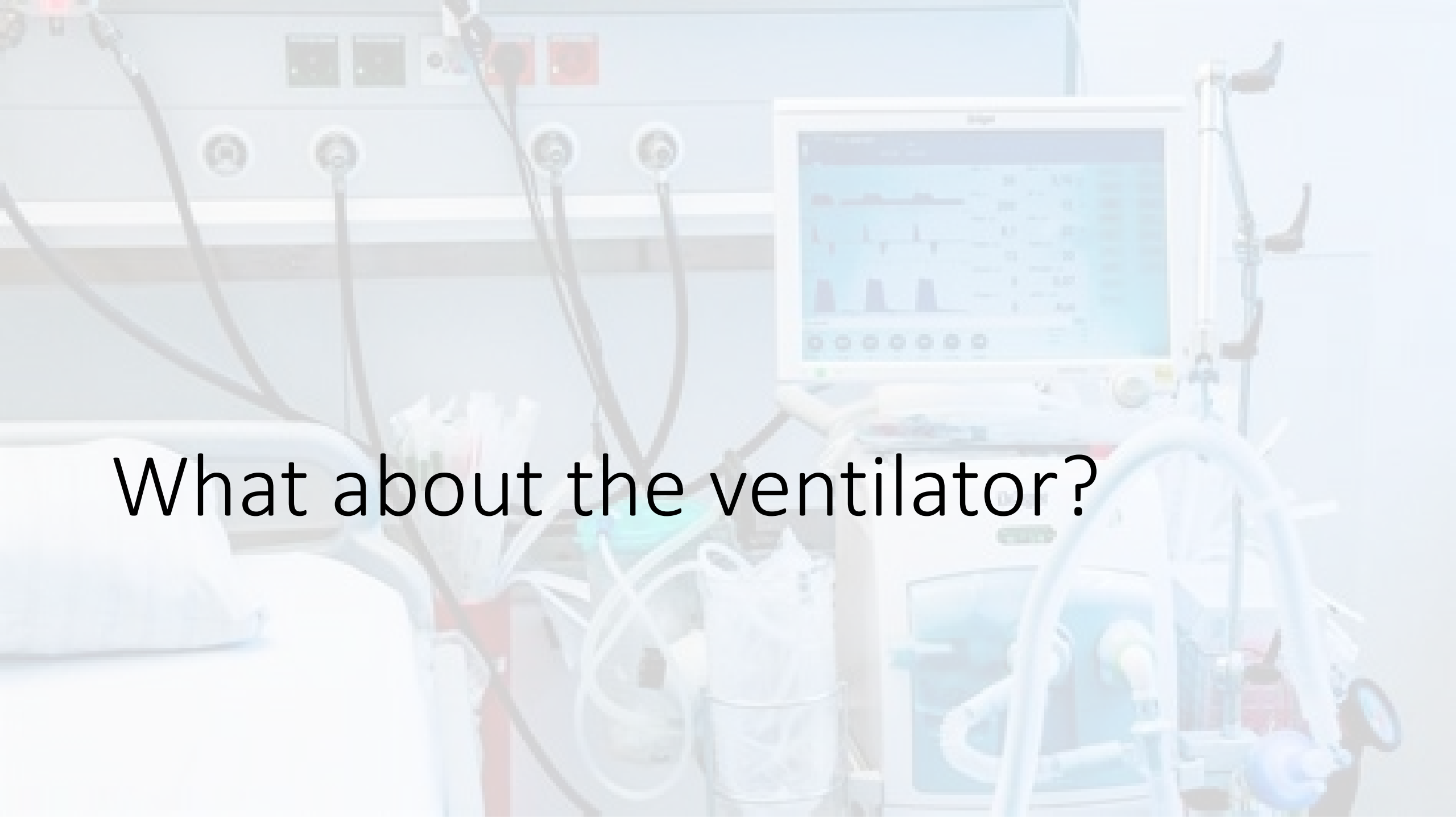
- Start with patient's and family's perception
- Provide clear, succinct synthesis

## Ending TLT:

- Review perception
- Remind them trial performed because of uncertainty about prognosis
- Provide update
- Consider extension

# Challenges

- Determining time interval
  - Can always shorten/lengthen
- Take a step back—likelihood of returning to functional independence
- Spoken and unspoken words
  - “withdrawing care” versus “shifting our interventions to maximize quality time with family”
  - Family fear “giving up”
  - “stable” elicit emotions
- But maybe more time…
- I want to be transparent with you…
- Physician wellness



# What about the ventilator?

# What about the ventilator?

- How to prevent discomfort for patients, thus prevent discomfort for relatives?
- ? Lower complicated grief among relatives of patients who died without endotracheal tube
- ? Terminal extubation providing more natural dying process
  - But higher risk of pt discomfort related to airway obstruction…

*Intensive Care Med (2017) 43:1793–1807*
DOI 10.1007/s00134-017-4891-0

ORIGINAL

# Terminal weaning or immediate extubation for withdrawing mechanical ventilation in critically ill patients (the ARREVE observational study)

René Robert[1,2,3], Amélie Le Gouge[4,5,6], Nancy Kentish-Barnes[7,8,9], Alice Cottereau[10], Bruno Giraudeau[4,5,6], Mélanie Adda[11], Djillali Annane[12,13], Juliette Audibert[14], François Barbier[15], Patrick Bardou[16], Simon Bourcier[17,18], Jeremy Bourenne[19], Alexandre Boyer[20,21], François Brenas[22], Vincent Das[10], Arnaud Desachy[23], Jérôme Devaquet[24], Marc Feissel[25], Frédérique Ganster[26], Maïté Garrouste-Orgeas[27,28,29], Guillaume Grillet[30], Olivier Guisset[20,31], Rebecca Hamidfar-Roy[32,33], Anne-Claire Hyacinthe[34], Sebastien Jochmans[35], Mercé Jourdain[36,37,38], Alexandre Lautrette[39,40], Nicolas Lerolle[41,42], Olivier Lesieur[43], Fabien Lion[44], Philippe Mateu[45], Bruno Megarbane[7,46], Sybille Merceron[7,8,9], Emmanuelle Mercier[5,47,48], Jonathan Messika[49], Paul Morin-Longuet[50], Bénédicte Philippon-Jouve[51], Jean-Pierre Quenot[52,53,54], Anne Renault[55,56], Xavier Repesse[57], Jean-Philippe Rigaud[58], Ségolène Robin[17,59,60], Antoine Roquilly[61,62], Amélie Seguin[63], Didier Thevenin[64], Patrice Tirot[65], Isabelle Vinatier[66], Elie Azoulay[7,8,9] and Jean Reignier[61,67,68*]

- **Purpose:** Relative **merits** of immediate extubation versus terminal weaning for mechanical ventilation withdrawal, particularly regarding the experience of patients and relative.
- Prospective, observational, multicenter study in 43 French ICU
- Terminal extubation (TE): immediate extubation without decrease in ventilatory assistance
- Terminal wean (TW): decrease in amount of ventilatory assistance (oxygenation, tidal volume, positive pressure)
- Choice by physician and other staff members

- Primary outcome: Post-traumatic stress symptoms in relatives 3 mos after death

- Secondary: complicated grief, anxiety, and depression symptoms in relatives, comfort of patient during dying process and job strain in staff.

# Results

Immediate extubation:

1. Family more involved in the process
2. Twice as common presence in the room
3. More gasping, symptoms of obstruction
   - d/t underuse of analgesics and sedatives
4. Preference towards comatose patients, more advance disease

Terminal Wean:

1. More common use of opioids, hypnotics and paralytics
2. Preference for respiratory failure

# Outcomes:

- Time TO death, no different
- Proportion of patient with relatives at bedside
- Same post traumatic distress scores, anxiety, depression, at 3 months or 12 months
- Satisfaction of relatives in end-of-life care, participation in decision, and respecting patient’s wishes were high in both group and no difference

# Psychological variable of ICU staff

- Job strain score  BETTER for assistant nurses in TE
- Higher demands on nursing TW
- Higher control and stronger social support for nurses and physician in TE
- Resident satisfaction lower in TE

- ICU staff preference TW>TE was due to unfavorable perception of immediate extubation.

# But HOW LONG…

- Average median time following initiation of terminal withdrawal ~61.7 min.
    - 93.2% in one paper died within 24 hours
    - Faster in those terminally extubated

- Vague data due to non-uniform studies

# Time to Death after Terminal Withdrawal of Mechanical Ventilation: Specific Respiratory and Physiologic Parameters May Inform Physician Predictions

Ann C. Long, MD, MS,[1] Sarah Muni, MD,[2] Patsy D. Treece, RN, MN,[1] Ruth A. Engelberg, PhD,[1] Elizabeth L. Nielsen, MPH,[1] Annette L. Fitzpatrick, PhD,[3,,4] and J. Randall Curtis, MD, MPH[1]

Purpose: Identify independent predictors of time to death after terminal withdrawal of MV

TABLE 2. CLINICAL VARIABLES AND MEDICATION USE IN THE 24 HOURS PRIOR TO WITHDRAWAL OF MECHANICAL VENTILATION

| | *Total* N = *330* | | |
|---|---|---|---|
| | n | *Missing,* n *(%)* | *% or mean (SD)* |
| **Laboratory variables** | | | |
| pH, mean (SD) | 304 | 26 (8) | 7.39 (0.11) |
| Arterial $PaO_2$ (mmHg), mean (SD) | 304 | 26 (8) | 119 (73) |
| Serum bicarbonate (mEq/L), mean (SD) | 312 | 18 (5) | 22 (6) |
| Creatinine (mg/dL), mean (SD) | 312 | 18 (5) | 1.68 (1.50) |
| Platelets ($10^9$/L), mean (SD) | 306 | 24 (7) | 190 (118) |
| **Respiratory variables** | | | |
| $FiO_2$ (%, from ventilator), mean (SD) | 322 | 8 (2) | 54 (24) |
| PEEP (cm $H_2O$), mean (SD) | 318 | 12 (4) | 7 (4) |
| Static pressure (cm $H_2O$), mean (SD) | 297 | 33 (10) | 26 (9) |
| Minute ventilation (L/min), mean (SD) | 312 | 18 (5) | 11 (4) |
| Spontaneous breathing trial, % | | 8 (2) | |
| No | 278 | - | 84 |
| Yes | 44 | - | 13 |
| Extubated prior to death, % | | 4 (1) | |
| No | 83 | - | 25 |
| Yes | 243 | - | 74 |
| **Physiologic variables** | | | |
| GCS (2–15), mean (SD) | 321 | 9 (3) | 4 (2) |
| Noninvasive MAP (mmHg), mean (SD) | 321 | 9 (3) | 73 (15) |
| Presence of IABP, % | | 17 (5) | |
| No | 310 | - | 94 |
| Yes | 3 | - | 1 |
| **Medications prior to withdrawal** | | | |
| Vasopressors/inotropes in the hour prior to withdrawal, % | | 2 (1) | |
| None | 248 | - | 75 |
| One | 55 | - | 17 |
| More than one | 25 | - | 8 |
| Total dose of opioids previous 24 hrs (mg),[a] mean (SD) | 328 | 2 (1) | 94 (264) |
| Total dose of benzodiazepines previous 24 hrs (mg),[b] mean (SD) | 328 | 2 (1) | 17 (42) |
| Total dose of propofol previous 24 hrs (mg), mean (SD) | 328 | 2 (1) | 414 (1236) |

Association to longer time to death:

- Higher pH, bicarb level, platelet counts
- SBT within 24 hours
- Higher GCS
- Higher MAP

Association to shorter time to death:

- Higher creatine
- Higher $FIO_2$ requirements, PEEP, and minute ventilation.
- Receiving more than one vasopressor
  - *Higher doses of opioids and benzo BUT NOT a predictor of death*

# What does this mean

Observational study of 330 patients, majority died within one hour of withdrawal

-remainder within 24 hours (98%)

Use of higher PEEP and higher static pressures most proximal to ventilator withdrawal predicted shorter time

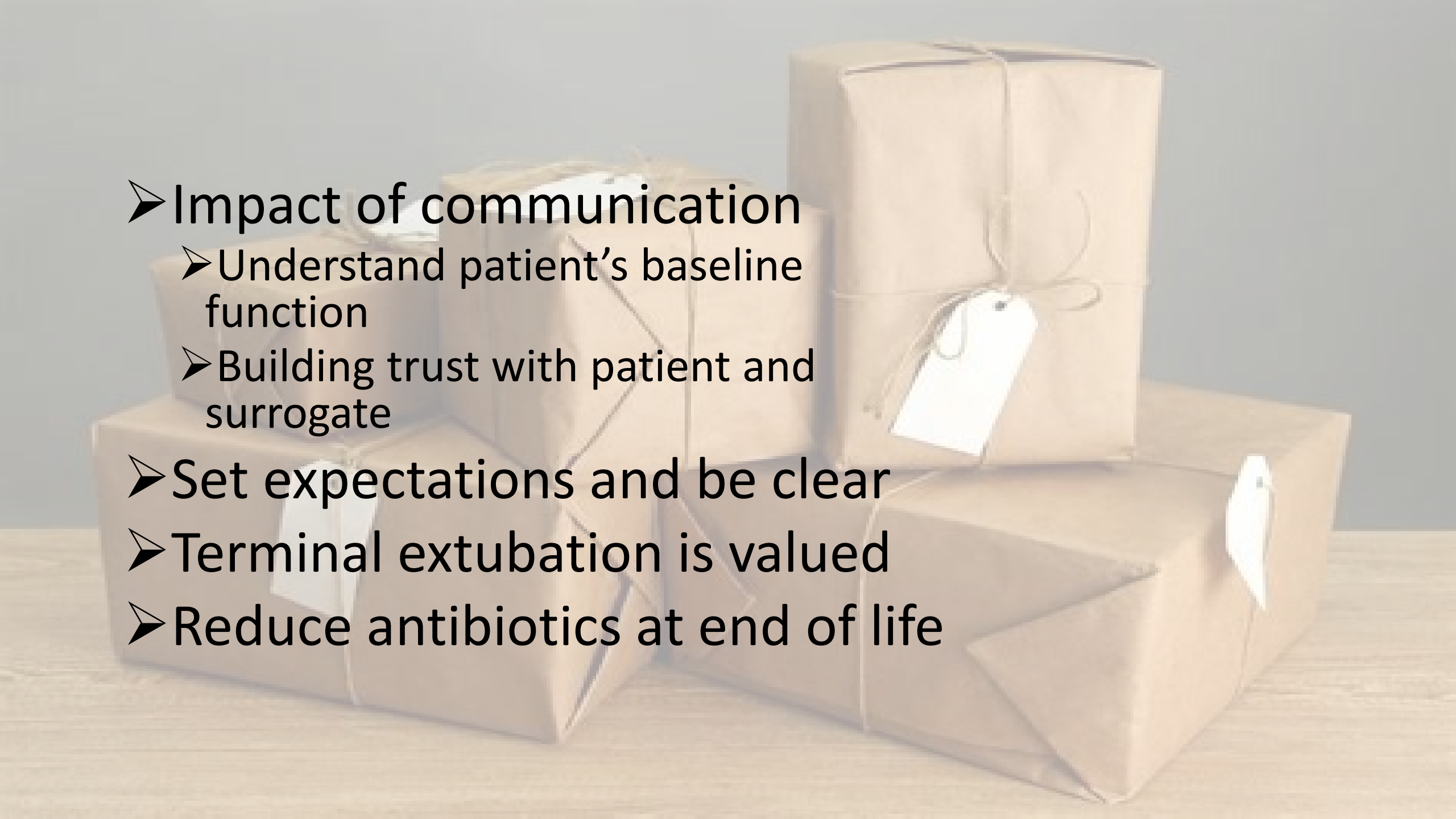
Having diabetes as comorbidity associated with SHORTER time

While cerebral vascular disease experience LONGER time

# Place for antibiotics?

- Patients' life expectancy <4 weeks, antimicrobial therapy does not resolve potential infection or improve prognosis
- Most common end of life infections?
  - UTI and respiratory tract infections
- Manage symptoms
  - 60-92% of UTI
  - 53% of respiratory infection
  - None in sepsis, abscess, deep complicated infections
- 2-day rule
- Risks: C. diff, MDR organisms, discomfort with administration
- KEY: setting expectations aligned with goals

What would you do next?



- Impact of communication
  - Understand patient's baseline function
  - Building trust with patient and surrogate
- Set expectations and be clear
- Terminal extubation is valued
- Reduce antibiotics at end of life


IF YOU CHANGE
nothing
THEN NOTHING
WILL CHANGE

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