



Sigma Theta Tau International  
**Honor Society of Nursing®**

# **EXAMINING DO-NOT-ATTEMPT RESUSCITATION (DNAR) STATUS**

**IN THE PEDIATRIC PALLIATIVE  
SURGICAL PATIENT:**

AN APPLICATION OF A DECISION ANALYSIS TOOL

MARGARET HARTIG, DNP, APN, CRNA

# PRESENTATION OBJECTIVES

Review of literature regarding pediatric palliative care, palliative surgery, DNAR, decision aids, and the theoretical framework for the project.

Discuss project results

Discuss project conclusions and implications



# THE HISTORY OF PALLIATIVE CARE

In 1975, Surgeon Balfour Mount coined the phrase “palliative care.”

He believed that surgical interventions which could improve quality of life should not be refused to patients with life-limiting conditions.



(Dunn & Johnson, 2004)



# HOW PALLIATIVE CARE BENEFITS OUR PATIENTS

- Landmark study in 2010
- early palliative care alongside standard oncologic care in the treatment of metastatic lung cancer resulted in improvements in patients':
  - quality of life and mood
  - greater documentation of patients' resuscitation preferences
  - survival benefit of over two months.

(Temel et al., 2010)



# PEDIATRIC PALLIATIVE CARE

PPC programs differ from adult programs in the variety of patients' conditions and the length of patients' survival.

74% of PPC patients live for more than a year after PPC services are begun, which is far greater than adult palliative care patients.



(Feudtner, et al., 2011; Feudtner & Blinman, 2013; Rork, Berde, & Goldstein, 2013; Siden, Chavoshi, Harvey, Parker, & Miller, 2014)



# PEDIATRIC PALLIATIVE SURGERY



Palliative surgery consists of 10-20% of surgery in oncology practices and could be higher when other specialties are included (Badgwell, Bruera, & Klimberg, 2014; McCahill et al., 2002; Miner, Brennan, & Jaques, 2004).

40% of all inpatient consultations of one tertiary referral cancer center were identified as palliative surgery consults (Badgwell et al., 2009).



# DNAR AND PALLIATIVE SURGERY

Palliative surgery outcomes are consistently poor with M & M rates as high as 30% (McCahill et al., 2003; Miner et al., 2004; Podnos et al., 2007).

DNAR orders are far more common at the time of death for patients on medical services versus surgical services (77.3% vs 64.2%;  $p= 0.02$ ) (Morrell, Brown, Drabiak, & Helft, 2008).

A German retrospective review of anesthesia interaction with palliative patients was shown to be 1.57%, but only 0.7% of those patients had DNAR mentioned in their pre-anesthetic note (Lassen et al., 2015).



# THEORETICAL FRAMEWORK: DECISION THEORY



Three presumptions of traditional decision theory:

1. There is a set of outcomes with each action
2. There is a quantifiable measurement of utility or benefit with each outcome
3. There is a probability for each outcome that can be estimated



( Doyle & Thomason, 1999)



# DECISION AIDS

**Shared decision making has replaced a paternalistic decision-making model in health care (DuBenske, Gustafson, Shaw, & Cleary, 2010; Elwyn et al., 2010).**

**Surge of health-related decision aids, cognitive aids, and decision analysis tools related to everything from breast and prostate cancer screening, emergency and blood transfusion guidelines, to end-of-life choices (Drought & Koenig, 2002; O'Connor et al., 2003; Stacey et al., 2014).**

**Decision aids serve to reduce practice variations, align patient values to the decisions, and improve quality of decisions made (O'Connor et al., 2007).**



# PURPOSE OF PROJECT

Introduce DNAR decision analysis tool as a way to identify PPS patients in need of a DNAR conference

Educate about the nuances of PPS patients and DNAR discussion

Gain expert opinion in the utility of the tool and the protocol for DNAR discussion



# DEVELOPING THE DNAR DECISION ANALYSIS TOOL

FLACC score for pediatric pain assessment

ASA physical classification

Current physical condition

Surgical risk stratification

Expert critique

Score analysis and DNAR discussion recommendations



# IRB APPROVALS

Ann & Robert H. Lurie Children's Hospital of Chicago Nursing Council approval of nursing research obtained September 8, 2015

Ann & Robert H. Lurie Children's Hospital of Chicago IRB Approval #2015-729  
September 17, 2015

SIUE Office of Research and Projects IRB approval    October 23, 2015

- Expedited review category 46.110 (6) (7)



# PROJECT PHASE ONE

Three semi-structured interviews with institutional experts audiotaped and transcribed

interview questions:

Explain your understanding of our institution's policy regarding DNAR status and palliative surgery.

Give examples of patient scenarios where preoperative DNAR examination is necessary.

What are the consequences of not addressing a PPS patient's DNAR status in the preoperative period?

What needs to be addressed in a decision analysis tool for examination of DNAR status in the PPS patient population?

Review the decision analysis tool and give suggestions for its improvement.

How can a decision analysis tool be implemented in our institution?



# DNAR DECISION ANALYSIS SCORING

	1	2	3
<b>ASA STATUS *</b>	ASA II	ASA III	ASA IV-V
Determination of current condition through level of symptoms Risk Stratification	Improved condition Ex., Hgb >10mg/dl, room air	Stable condition Labs and oxygen requirements unchanged	Deteriorating condition Ex., Acute renal failure, heart failure
DNAR order	<b>Never</b> had a DNAR order	No current DNAR order, but DNAR order in the past	Current DNAR order
Surgical Procedure/ Expectations	Low risk/ no blood loss anticipated Good Outcome expected	Mid-high risk/ moderate potential for Blood loss or significant complication Moderate outcome	High risk for blood loss and severe complications Uncertain outcome

4-5: No need for DNAR communication. Discuss surgical & anesthetic risks as usual.

6-7: Contact the primary care and request a DNAR consult. Should DNAR be addressed?

8-9: Schedule a preop family/patient DNAR conference with (possibly) primary care/ oncology, surgery, anesthesia, child life, chaplain, etc.

10-12: **Required** DNAR Conversation  
Consider surgical delay until DNAR communication conference  
©Margaret Hartig 2015

# PROJECT PHASE TWO

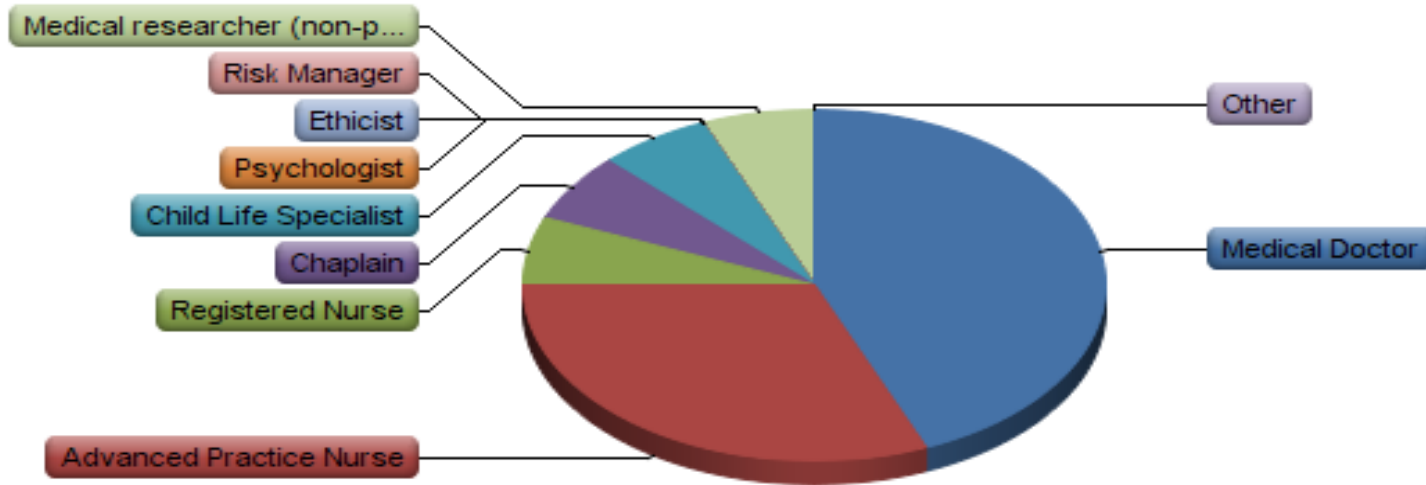
Professionally filmed focus group with 17 invited experts in the fields of nursing, medicine, child life, and pastoral care.

15 minute education session followed by group discussion

Pretest and Posttest



# DEMOGRAPHICS OF FOCUS GROUP



Medical Doctors= 44%

Advanced Practice Nurses=31%

Registered Nurses=6%

Child life Specialists=6%

Chaplains=6%

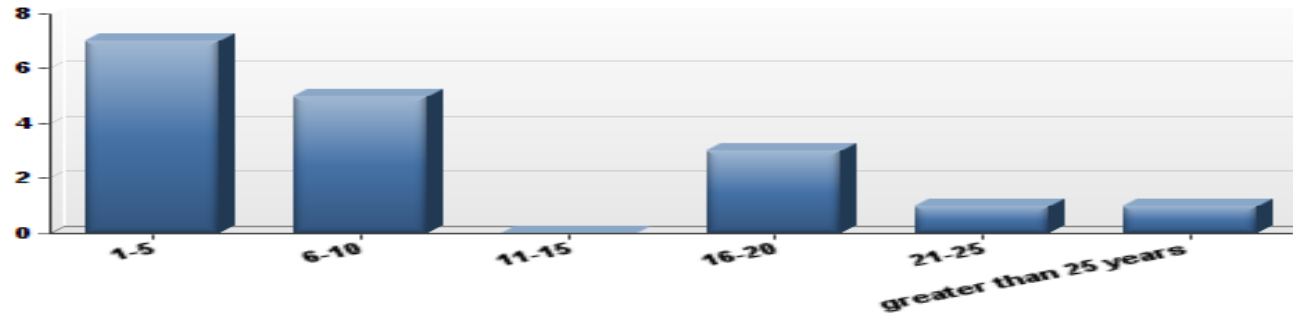
Non-physician researchers=6%

Statistic	Value
Min Value	1
Max Value	9
Mean	2.38
Variance	4.52
Standard Deviation	2.13
Total Responses	16





# HOW LONG PRACTICING CURRENT JOB?



1-5 years = 41%  
6-10 years = 29%  
11-15 years = 0%  
21-25 years = 6%  
Over 25 years = 6%

Statistic	Value
Min Value	1
Max Value	6
Mean	2.35
Variance	2.62
Standard Deviation	1.62
Total Responses	17



# PRETEST RESULTS

**29% of the respondents were aware of the most recent practice recommendations for pediatric palliative surgery (PPS) patients and DNAR status examination**

**65% of the respondents had previously participated in a DNAR conference**

**65% of the responded that a standardized approach to DNAR examination would be beneficial to PPS patients**

**71% of respondents stated that they were familiar with the use of decision aids (decision analysis tools) for patient care and medical decision making**

**59% believed that a decision analysis tool or specific observation scale would increase health-care provider awareness of a need for DNAR status communication with PPS patients and/or their families**

**59% believed that it is possible to incorporate a standardized protocol for the identification of PPS patients in need of DNAR status communication.**



# POSTTEST RESULTS

81% responded that a decision analysis tool would increase provider awareness of a need for DNAR communication

69% responded that it is possible to incorporate a standardized protocol for the identification of PPS patients in need of a DNAR status communication.

75% responded that the DNAR decision analysis tool would be helpful in the participants' future clinical practice

94% of the participants agreed that future education sessions would benefit the practitioners in their institution.



THE QUALITATIVE ANALYSIS OF THE FOCUS GROUP TRANSCRIPTS USING  
CONTENT ANALYSIS TECHNIQUES FROM ELO & KYGANAS (2007) AND  
GRANEHEIM & LUNDMAN (2003)

**central theme of “ideal world versus real world.”**

**5 major themes included 1) Population 2) Tool 3)  
Protocol 4) Education 5) Barriers.**

**7 sub-themes included 1) Risk 2) Assumptions  
3) Urgency 4) Circumstances 5) Triggers 6)  
Relationship 7) Conversation.**



# CONCLUSIONS

## ideal world versus the real world

- urgency, time constraints, and operating room production pressure

## difficulty identifying the population of patients

- confusion of terms between palliative care and DNAR

## decision analysis scoring tool

- little was identified for improvement of the tool, and much was appreciated in the tool, but questions of its utility did arise.

## suggestion for future research

- retrospectively applying the decision analysis to PICU patients to determine what score was obtained and who had an intraoperative event requiring resuscitation



# OPPORTUNITY TO TALK

policy of “required reconsideration of DNAR” for all patients presenting for pre-anesthetic and/or surgical evaluation with active DNAR orders was upheld.

agreement that “it is much easier to talk to these patients who have already had the conversation of DNAR than those who have never had the conversation.”

PPS is “an opportunity to talk about some of those things (palliative care/ DNAR). I think that families are less likely to be angry about bringing it up when we are already talking about the added risk (of surgery and anesthesia) and what we anticipate the outcome to be.”



# IMPLICATIONS

## consensus

- the primary care physician (at the time of the hospitalization i.e, neurologist, hematologist, palliative care physician) must be included in determining the need for a DNAR conference and should be present (if possible) for the discussion.
- DNAR discussion of palliative care patients presenting for anesthesia should *never* occur immediately prior to the procedure.
- Need for future education
- merge the “ideal world and real world” health care practice when caring for PPS patients in need of DNAR examination.
- Future policy reconsideration



# REFERENCES

- Badgwell, b., Bruera, E., & Klimberg, S. (2014). Can Patient reported outcomes help identify the optimal outcome in palliative surgery? *Journal of Surgical Oncology*, 109(2), 145-150.
- Badgwell, B., Smith, K., Liu, P., Bruera, E., Curley, S., & Cormier, J. (2009). Indicators of surgery and survival in oncology inpatients requiring surgical evaluation for palliation. *Support Care Cancer*, 17(6), 727-734. doi:10.1007/s00520-008-0554-6
- Doyle, J., Thomason, R. (1999). Background to qualitative decision theory. *Artificial Intelligence*, 20(2), 55-68. doi:http://dx.doi.org/10.1609/aimag.v20i2.1456
- Drought, T. & Koenig, B. (2002). “Choice” in end-of-life decision making: Researching fact or fiction? *Gerontologist*, 42, *Special Issue III*, 114-128. Retrieved from [http://gerontologist.oxfordjournals.org/content/42/suppl\\_33/114.full.pdf](http://gerontologist.oxfordjournals.org/content/42/suppl_33/114.full.pdf)
- DuBenske, L., Gustafson, D., Shaw, B., & Cleary, J. (2010). Web-based cancer communication and decision making systems: Connecting patients, caregivers, and clinicians for improved health outcomes. *Medical Decision Making*, 30(6), 732-744. doi:10.1177/0272989X10386382
- Dunn, G. & Johnson, A. (Eds.). (2004). *Surgical Palliative Care*. New York, NY: Oxford University Press.



# REFERENCES

- Elo, S. & Kyngas, H. (2007). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115. Doi: 10.1111/j.1365-2648.2007.04569x
- Elwyn, G., Laitner, S., Coulter, A., Walker, E., Watson, P., & Thomson, R. (2010). Implementing shared decision making in the NHS. *BMJ*, 341, c5146. doi:<http://dx.doi.org/10.1136/bmj.c5146>
- Feudtner, C. & Blinman, T. (2013). The pediatric surgeon and palliative care. *Seminars in Pediatric Surgery*, 22, 154-160. <http://dx.doi.org/10.1053/j.sempedsurg.2013.05.004>
- Feudtner, C., Kang, T., Hexem, K., Friedrichsdorf, S., Osenga, K., Siden, H., ... Wolfe, J. (2011). Pediatric Palliative Care Patients: A prospective multicenter cohort study. *Pediatrics*, 127, 1094-1101. doi:10.1542/peds.2010-3225
- Graneheim, U. & Lundman, B. (2003). Qualitative content analysis in nursing research: concepts, procedures, and measures to achieve trustworthiness. *Nurse Education Today*, 24, 105-112. Doi:10.1016/j.nedt.2003.10.001
- Lassen, C., Aberle, S., Lindenberg, N., Bundscherer, A., Klier, T., Graf, B., & Wiese, C. (2015). Palliative patients under anaesthesiological care: A single-center retrospective study on doi:10.1186/s12871-015-0143-4
- McCahill, L., Krouse, R., Chu, D., Juarez, G., Uman, G., Ferrell, B., & Wagman, L. (2002). Decision making in palliative surgery. *Journal of the American College of Surgeons*, 195(3), 411-422. doi: 10.1016/S1072-7515(02)01306-6

# REFERENCES

- McCahill, L., Smith, D., Borneman, T., Juarez, G., Cullinane, C., Chu, D., Ferrell, B., & Wagman, L. (2003). A prospective evaluation of palliative outcomes for surgery of advanced malignancies. *Annals of Surgical Oncology*, 10(6), 654-663. doi:10.1245/ASO.2003.06.011
- Miner, T., Brennan, M., & Jaques, D. (2004). A prospective, symptom related, outcomes analysis of 1022 palliative procedures for advanced cancer. *Annals of Surgery*, 240(4), 719-727. doi:10.1097/01.sla.0000141707.09312.dd
- Morrell, E., Brown, B., Drabiak, K., & Helft, P. (2008). The do-not-attempt resuscitate order: Associations with advance directives, physician specialty and documentation if discussion 15 years after the Patient Self-Determination Act. *Journal of Medical Ethics*, 34, 642-647. doi:10.1136/jme.2007.022517
- O'Conner, A., Stacey, D., Entwistle, V., Llewellyn-Thomas, H., Rovner, D., Holmes-Rovner, M., ... & Jones, J. (2003). Decision aids for people facing treatment or screening decisions (Cochrane Review). *The Cochrane Library*, 2. Retrieved from <http://thecochranelibrary.com>
- O'Conner, A., Wennberg, J., Legare, F., Llewelyn-Thomas, H., Moulton, B., Sepucha, K., ..., & King, J. (2007). Toward the 'tipping point': Decision aids and informed patient choice. *Health Affairs*, 26(3), 716-725. doi:10.1377/hlthaff.26.3.716
- Podnos, Y., Juarez, G., Pameijer, C., Choi, K., Ferrell, B., & Wagman, L. (2007). Impact of surgical palliation on quality of life in patients with advanced malignancy: Results of the decisions and outcomes in palliative surgery (DOPS) trial. *Annals of Surgical Oncology*, 14(2), 922-928. doi:10.1245/s10434-006-9238-y

# REFERENCES

- Rork, J., Berde, C., & Goldstein, R. (2013). Regional anesthesia approaches to pain management in pediatric palliative care: A review of current knowledge. *Journal of Pain & Symptom Management*, 46(6), 859-873. doi:10.1016/j.jpainsymman.2013.01.004
- Siden, H., Chavoshi, N., Harvey, B., Parker, A., & Miller, T. (2014). Characteristics of a pediatric hospice palliative care program over 15 years. *Pediatrics*, 134(3), 765-772. doi:10.1542/peds.2014-0381
- Stacey, D., Legare, F., Col, N., Bennet, C., Barry, M., Eden, K., ...& Wu, J. (2014). Decision aids for people facing health treatment or screening decisions. *The Cochrane Library*, Issue 1. doi:10.1002/14651858.CD001431.pub4
- Temel, J., Greer, J., Muzikansky, A., Gallagher, E., Admane, S., Jackson, V., ...Lynch, T. (2010). Early palliative care for patients with metastatic non-small-cell lung cancer. *New England Journal of Medicine*, 363(8), 733-742. doi:10.1056/NEJMoa1000678