Evaluation of a standardized pre-donor management guideline

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Problem Statement

--Transplantation has become the standard treatment for many patients with organ failure, however, lack of viable organs for transplantation in the United States results in an increased number of deaths among potential donor recipients each year (UNOS, 2017).

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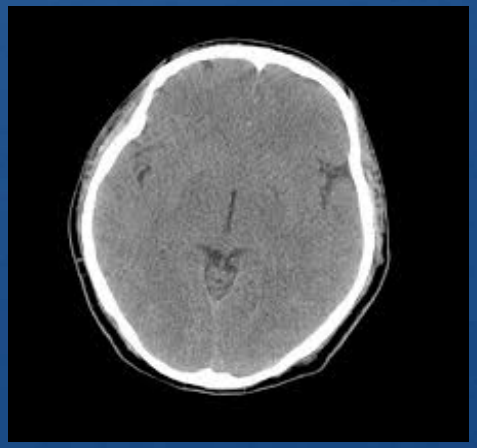
Purpose

- Evaluate the influence of a nurse practitioner-directed pre-donor management guideline in 18-80 year old patients in the STICU at BUMC diagnosed with catastrophic brain injury and meeting criteria for potential organ donation.



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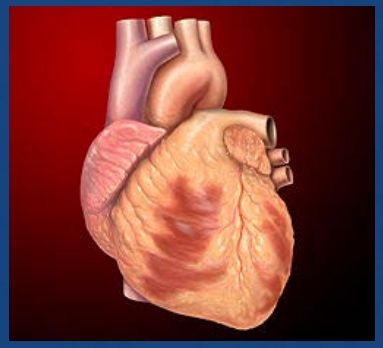
History/Background

- First organ transplant was in 1954
- Uniform Anatomical Gift Act of 1968
- 1983- Cyclosporine developed
- US ranks fourth-highest in organ donation in the world



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Significance

- >50% of US healthcare dollars are spent treating conditions related to organ failure or tissue loss
- Declining reimbursement, increasing morbidity as the population ages
- Standardized clinical practice guidelines are proven to reduce waste and error and decrease costs.

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Synthesis

- 49 total articles and websites included

- Types of studies:
  - 5 RCTs
  - 15 retrospective cohort studies
  - 6 clinical practice guidelines
  - 9 expert opinions

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Strengths

- Large volume dating back to the early 1990's
- Evidence from multiple countries
- Many studies have similar outcomes, increasing reliability
- Many studies contain high-level evidence and large sample sizes, increasing validity.

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Weaknesses/Gaps

- Differing definitions of donor management.
- Differing definitions of brain death and different processes for brain death declaration.
- Differing CPGs for hormone replacement or catastrophic brain injury management, no accepted standard practice guideline.

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Methodology

- Project design:
  - A three-part standardized pre-donor management guideline was developed and implemented in 2015
- Data collection tools
  - Retrospective aggregate data was collected on deaths at BUMC by the OPO for the period between 2013-2017.

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Data Analysis

- Demographics and data related to cause and manner of death were analyzed using descriptive statistics.

- Primary and secondary outcomes were analyzed using ordered logistic regression.

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Results

- Total of 66 donors during data collection period
- N= 32 in pre-implementation group
- N= 34 in post-implementation group

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Results

Table 1. Demographics and Clinical Characteristics*

Characteristics	Pre-implementation (N=32)	Post-implementation (N=34)
Age (yr)	35 years +/- 17.6 years (13 to 67).	34 years +/- 14.8 years (15 to 76).
Sex		
• Male	21/32 (66%)	27/34 (79%)
• Female	11/32 (34%)	7/34 (21%)
Race/Ethnicity		
• African American	9/32 (28%)	12/34 (35%)
• Caucasian	9/32 (28%)	9/34 (27%)
• Hispanic/Latino	14/32 (44%)	13/34 (38%)
Cause/Manner of death		
• Anoxia	3/32 (9%)	3/34 (9%)
• CVA/stroke	4/32 (12.5%)	3/34 (9%)
• Head trauma	21/32 (66%)	25/34 (73%)
• Other	4/32 (12.5%)	3/34 (9%)

*Categorical variables are reported at n (%), and all other variables are reported as mean +/- standard deviation (range).

Primary and Secondary Outcomes

- Primary outcome:
  - Number of organs transplanted per donor increased from 3 organs per donor to 4 organs per donor on average.
- Secondary outcome:
  - Time from referral to donation decreased from 2 days to 1 day on average.

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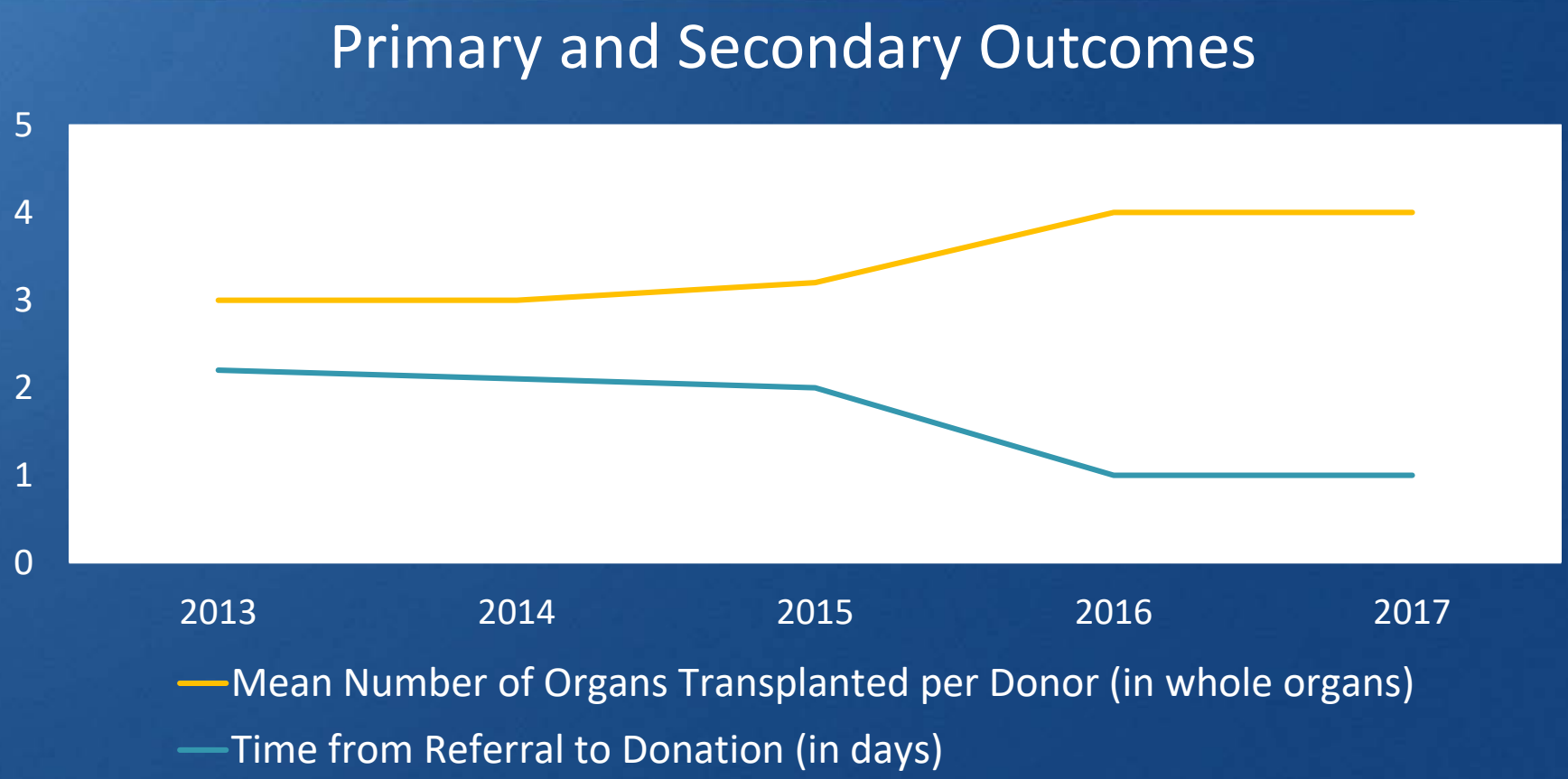
Results, cont.



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Impact of Results on Practice

- Standardization of care improves outcomes
- Increased clinical efficiency within the STICU
- Cost benefits

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Strengths of Project

- Study design
- Collaboration with the local OPO
- High quality data

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Limitations of Project

- Retrospective data/design limitations
- Confounding
- Three-part intervention
- Single institution

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Future Implications for Practice

- Ongoing use of CPG
- OPO development of education
- Guide other investigations into pre-donor management
- NP-driven CPGs in ICU's

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Questions?

- Special thanks to :
  - Southwest Transplant Alliance
  - Dr. Michelle Ardisson, Project Chair
  - Dr. Terri Allison, Project Committee Member
  - Dr. Leena Choi, Vanderbilt Biostatistician, Project Committee Member
  - Dr. Melanie Allison, VUSN Editor

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