

## **The Impact of Resident Education on Advance Directive Documentation and Resident Knowledge of Advanced Care Planning**

### **A. Study Purpose and Rationale**

Ever since the Patient Self-Determination Act of 1990 mandated health care facilities to inform patients of their right to both consent to or refuse medical treatment, there has been a push to have patients establish their goals of care (GOC) and complete advance directives (AD). ADs are used to document a patient's wishes regarding life sustaining therapies and to designate a surrogate decision maker. The most crucial decisions regarding the aggressiveness of care often occur amongst critically ill and hospitalized patients nearing the end-of-life, but studies have shown that the majority of patients lack the capacity to make their own decisions at the EOL (8). When patients who are not competent to make their own decisions at the EOL do have advance directives in place they are more likely to receive care consistent with their previously documented preferences (8).

A key healthcare setting to establish a chronically ill patient's GOC is in the outpatient setting with a patient's primary care provider. In fact, it has been shown that most patients believe it is their physician's responsibility to initiate an AD discussion and patients prefer discussions to occur earlier in time than physicians do (at an earlier age, earlier in the disease course, earlier in patient-physician relationship) (6). Amongst cancer patients, patients who reported discussing EOL care with a physician were more likely to receive care that was consistent with their preferences (7). Finally, discussing AD in the outpatient setting is associated with greater patient satisfaction with the physician (5, 10).

Internal medicine resident physicians who act as primary providers to a panel of outpatients are a key cohort of physicians to target to discuss goals of care with their chronically ill patients as during training most residents start to develop their own practice style and practice patterns that they may use for the duration of their careers. While the ACGME does not have any program guidelines for Internal Medicine residency programs regarding minimal competencies in advanced care planning and end-of-life discussions with patients, they do uphold that by the end of training residents must "demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients and their families" and "demonstrate respect for patient privacy and autonomy," both of which are key components of advanced care planning discussions (1).

A study conducted at S&W/Texas A&M surveyed internal medicine and family medicine residents regarding their attitudes towards advance directives. They found that 93% of those surveyed either agreed/strongly agreed that "didactic sessions on advance directives should be offered by my hospital, residency program, or medical school," and 78% indicated that they needed further instruction on advance directives (4). Another study showed that internal medicine residents who received educational training on AD and who were asked to identify a cohort of their own continuity patients who would benefit from AD reported increases in their own knowledge, skills, attitude, and comfort with advance directives (3). A RCT conducted in a residency outpatient practice found that residents randomized to an education group on AD were significantly more likely to document AD discussions with their patients than the groups randomized to patient education or control group. Additionally, the most frequently cited barriers to AD discussions and documentation were lack of time, lack of continuity, and that patients were not sick enough (9).

The CUMC Internal Medicine Training program provides an ideal setting to implement several measures to increase resident education on advance directives and GOC discussions and study outcomes in documentation of advance directives in the outpatient setting and resident knowledge of and comfort with this critical clinical skill. At present, the IM training program does not have any formal curriculum on facilitating GOC discussions or documenting advance directives. Additionally, the hospital and department of Medicine have no standardized location to document advance directives that is widely used, accessible to both inpatient and outpatient providers, and easily searchable. Finally, the IM resident physicians have a robust outpatient practice, Associates in Internal Medicine (AIM), in which residents are the primary care providers to the Washington Heights community, which is a generally very medically-complex and comorbid population.

Study Aim 1: To determine if implementing a curriculum on the legalities of advance directives, physician-facilitated advanced care planning discussions, and documentation of advance directives improves resident physician documentation of advance care planning discussions and advance directives of their chronically ill primary care patients.

Study Aim 2: To determine if implementing a curriculum on the legalities of advance directives, physician-facilitated advanced care planning discussions, and documentation of advance directives improves resident physician knowledge of and comfort with these topics.

#### **B. Study Design and Statistical Analysis**

This study will be conducted as a randomized controlled trial (not placebo controlled or blinded). Categorical Internal Medicine residents (PGY 1-3) will be randomized to one of following two groups: 1) Education group (residents must complete required online educational modules), 2) control group (residents do not complete online educational modules). All residents, regardless of randomized group, will be required to complete one module which instructs how to access the Eclipsis "Advance Directives Note," which for the purposes of this study will be accepted as the hospital-wide preferred platform to document advance directives. Randomization of resident physicians, which will be computerized, will be controlled for age, race, gender, sex, and PGY level of training. The study will run from June 15, 2014-June 14 2015. All resident physicians randomized to group 1 must complete the required online modules and pass a minimum competency quiz by July 15, 2014. Residents in group 1 must teach a medical student the competencies outlined in the online module and conduct a GOC discussion on a general medicine rotation under the supervision of a palliative care specialist by June 30, 2015. The content of the online modules will be discussed below.

The primary outcome to be measured will be the provider mean completion rate of the Advance Directive Eclipsis note for high-risk patients between July 2014-July 2015. High-risk patients will be defined as patients >75 yrs or >50 years with one or more of the following (AIDS, cancer, cardiomyopathy, COPD, CKD, CHF, CAD, hepatic failure, CVA, ICU admission within the last year). Documents do not need to have all sections filled out within the AD note to be counted as a completed document. A primary provider needs to have completed only one AD document over the course of the study period to count as a completed document.

The data will be analyzed using an unpaired t test to compare the mean provider completion rate of the AD note between the education group and the control group. Assuming the mean provider completion rate within

the control group is 30% and 70% in the intervention group and standard deviation is 20%, a sample size of <6 providers is needed for both groups. Assuming each group has 60 subjects (roughly 120 categorical residents are in the program) and standard deviation is estimated to be 20%, the study is powered to detect an effect size of 10% between the two means (using  $\alpha=0.05$  and  $\beta=0.80$ ). The assumed mean completion rate of the control group was set at 30% with a SD of 20% based on a small poll of PGY1 residents who were asked the frequency with which they complete the AD Eclipsis document. Additionally, prior studies have shown that <50% of severely or terminally ill patients have an advance directive within their chart (2). Our control group mean completion rate will be set lower as the majority of the “high-risk” patients which providers in this study are seeing are not as critically ill as the subjects cited in these studies.

The secondary outcome will be measured by change in answers to a pre- and post- test that residents in both groups must complete both before the start of the study (must be completed by June 30, 2014) and after the completion of the study (must be completed between June 15-June 30). A copy of the pre/post test is attached.

Again, the data will be analyzed using an unpaired t test to compare the mean change in Likert scale for each question on the pre/post test. Assuming a mean change in the Likert in the control group of 0.5 and mean change of 1.5 in the intervention group with a SD of 0.5 for both changes in means, both groups need <6 subjects. The study is powered to detect an effect size of 0.26 assuming 60 subjects per group and SD of 0.5. Again an  $\alpha=0.05$  and  $\beta=0.8$  will be used.

### **C. Study Procedures and Study Questionnaires**

#### **A. Online Learning Modules**

The online learning modules will be both informative and interactive. The topics to be covered will include: 1) patients who providers should target to discuss advanced care planning with, 2) the legalities behind, differences between, and NY state accepted forms for health care proxy, living will, advanced directives, 3) how and where to document a patient’s advance directives within Eclipsis, 4) how to discuss advanced care planning with a patient and his/her family (including suggested phrases that can be used, goals of conversations), and 4) video clips of effective vs. ineffective discussions. At the end of the module subjects will be required to pass a 10 question quiz with a minimum score of 80%. The online modules are expected to take between 2-3 hours to complete. Finally, as part of the curriculum, residents must teach a medical student the content of the above course during the GM1 or GM2 rotation and they must lead one inpatient GOC discussion/family meeting during GM1/GM2 with a palliative care faculty (attending, SW, pastoral care) present at the meeting.

#### **B. Pre/Post Test (Addendum A)**

**D. Study Drugs, Medical Device-** there are no study drugs or medical devices

### **E. Study Subjects**

Study subjects will be categorical Internal Medicine residents (PGY 1-PGY 3) completing their residency training at Columbia University Medical Center. Preliminary interns will be excluded from this study. Residents involved with the development of this study will be excluded. All subjects are >18 years old.

AIM patients will be considered high-risk if they are  $\geq 75$  yrs or  $\geq 50$  years of age with one or more of the following: (AIDS, cancer, cardiomyopathy, COPD, CKD, CHF, CAD, hepatic failure, CVA, or ICU admission within the last year). Primary providers must have seen the patient in clinic  $\geq 2$  visits over the course of the study period to ensure that there is a physician-patient relationship. ICD9 codes will be used to identify high-risk patients. All AIM patient data will be de-identified electronically.

#### **F. Recruitment of Subjects**

All entering categorical PGY1-PGY3 residents will be approached prior to the beginning of the training year by the IM training program via email and mailbox flyers to participate in this study.

High-risk AIM patients will not need to be recruited as by being patients of the NYP-Columbia campus they will have already consented to the use of their health information for research purposes.

#### **G. Confidentiality of Study Data**

Every medical resident enrolled in this study will be assigned a unique number to identify him/her. Pre/post tests will be de-identified of resident names and replaced with the resident's designated number. Information collected from high-risk AIM patients will be de-identified and only the minimal amount of data necessary will be collected (i.e. whether or not the patient has an advance directives document completed by the primary provider in the chart). All study information will be kept in a secure location and will be accessible to only the study investigators. Only the primary investigator of this study will be able to access the spreadsheet which lists resident names with corresponding de-identified numbers.

#### **H. Potential Conflicts of Interest**

No potential conflicts of interest are identified.

#### **I. Location of Study**

New York Presbyterian Hospital- Columbia University; AIM clinic

#### **J. Potential Risks**

Risk to residents who are involved in this study is no more than minimal as data is coded as above and kept in a secure location. No answers to the pre/post test will be used to evaluate or penalize subjects.

#### **K. Potential Benefits**

Residents randomized to the education group have the opportunity of gaining knowledge and clinical competencies conveyed in the online modules.

#### **L. Alternatives**

None.

#### **M. Compensation and Costs to Subjects** None.

Addendum A

Pre/Post Test

1. I am confident in my ability to lead a goals-of-care discussion with a patient and his/her family.

Strongly Disagree (1)      Disagree (2)      Neutral (3)      Agree (4)      Strongly Agree (5)

2. I know which patients to prioritize discussing advance directives and goals of care with.

Strongly Disagree (1)      Disagree (2)      Neutral (3)      Agree (4)      Strongly Agree (5)

3. I understand the legalities behind and the differences between advance directives, health care proxy, and living will.

Strongly Disagree (1)      Disagree (2)      Neutral (3)      Agree (4)      Strongly Agree (5)

4. I feel confident that I could teach someone else about advance directives and discussing advance care planning with a patient.

Strongly Disagree (1)      Disagree (2)      Neutral (3)      Agree (4)      Strongly Agree (5)

5. Columbia IM residency program provides sufficient training for residents in discussing advanced care planning with patients.

Strongly Disagree (1)      Disagree (2)      Neutral (3)      Agree (4)      Strongly Agree (5)

6. I know where to document and find advance directives for a patient within the Eclypsis interface.

Strongly Disagree (1)      Disagree (2)      Neutral (3)      Agree (4)      Strongly Agree (5)

Comments:

Sources:

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