IDENTIFYING GAPS IN KNOWLEDGE AND COMFORT IN MOLST DISCUSSIONS IN ADVANCED PRACTICE NURSES

by

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This is to certify that

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Abstract

A Medical Order for Life Sustaining Treatment (MOLST) form is used in health care to document patient treatment decisions for end-of-life care or medical management. In practice, MOLST forms are not being completed due to barriers experienced by providers. The capstone project question proposed was, in Advance Practice Nurses (APN) working in the adult care setting, will a survey of their knowledge and comfort regarding MOLST form discussions help identify specific gaps in knowledge or comfort for the APNs? Research has shown that providers are experiencing barriers in MOLST discussions in knowledge and comfort, but research has not identified exact barriers (Bernacki & Block, 2014; Ganguli, Chittenden, Jackson, and Kimball, 2016; Hickman, Keevern, & Hammes, 2015). The Trajectory Model of Nursing was utilized in the creation of the MOLST discussion survey due to the important of assessing the trajectory of illness of each patient in order to decide if patients are appropriate for a MOLST discussion, based off of their projected illness (Granger, Moser, Germino, Harrell, & Ekman, 2006). A survey consisting of sociodemographic questions, nominal questions assessing knowledge, and a 5-point Likert scale assessing comfort was used in the data collection. A quantitative descriptive analysis was used with a chi-square test with cross tabulation. 24 APN’s were included in the study, with results showing a deficit in knowledge in MOLST form discussions and a decreased comfort level during MOLST discussions, specifically in Nurse Practitioners who work in a non-intensive care setting. Areas have been identified where MOLST education can be beneficial with an indication for further research on APN comfort levels that will improve MOLST discussions in the future.

Keywords: MOLST discussions, Advanced Practice Nurses, knowledge gaps, comfort gaps
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Gaps in MOLST Discussions in APNs

Being able to discuss end-of-life care with patients is extremely important as a provider because it can lead to a decrease in unwanted and unnecessary medical intervention for patients. The form that is used by providers to document end-of-life care is known as the medical orders for life sustaining treatment (MOLST) form. MOLST forms have been around in New York State since 2006, but there are still barriers faced by providers regarding end-of-life care discussions, which leads to MOLST forms not being completed (New York State Department of Health, 2012a). One of these barriers that prevent providers from discussing end-of-life care is the lack of education they have received on MOLST forms. Physicians do not feel comfortable discussing and educating patients and families on a form that they do not fully feel educated on (Bernacki & Block, 2014). Unfortunately, the ones suffering from this barrier are patients, who in result, do not have their wishes heard and documented, and may receive unwanted medical treatment that could have been documented (Bernacki & Block, 2014). The option of discussing end-of-life care should not be withheld from patients because providers do not feel comfortable, which shows that we need improvement in this area in heath care. The objective of this study is to find out in Advanced Practice Nurses (APNs) working in the adult care setting, will assessment of knowledge and comfort on MOLST form discussions identify gaps in knowledge or comfort for APNs?

Background and Significance of MOLST Discussion Assessment

A medical order for life sustaining treatment (MOLST) form is currently used in health care to document specific patient wishes about the care that they wish to receive at the end of life or in medical situations. End-of-life discussions and MOLST documentation are important in ensuring that patients are being included in conversations regarding care decisions and that they
are receiving the type of care that they want as they near the end of their lives. In order for this information to be documented, a health care provider must discuss end-of-life care options using a MOLST form and legally witness the document with their signature once the form has been completely reviewed with the patient. As of May 2018, Advanced Practice Nurses (APNs) can not only have the end-of-life care discussions with patients and families, but they can now legally witness a MOLST form after having the discussion rather than having to find a physician to sign the form (New York State Department of Health, 2012a; The New York State Senate, 2017). This is an important advancement in health care with the intention being that it will increase MOLST form completion and lead to meaningful provider-patient conversations about end-of-life wishes.

Bernacki and Block (2014) stated that, “early discussions about goals of care are associated with better quality of life, reduced use of non-beneficial medical care near death, enhanced goal-consistent care, positive family outcomes, and reduced costs” (p. 1994). If providers are not having end-of-life care discussions, patients may be subjected to unwanted or unnecessary medical treatment that they would have otherwise had the option of refusing if a provider would have asked them. Ganguli et al. (2016) had a similar point of view that end-of-life care conversations can provide patients with the opportunity to discuss their goals of care to ensure that they do not receive unwanted medical treatment that would decrease their quality of life. These conversations are “limited in frequency and scope”, showing that there are improvements to be made in end-of-life care discussions (Ganguli et al., 2016, p. 1215).

Although providers understand the importance of MOLST documentation, the actual number of MOLST forms being documented has not always reflected the importance. In a study at Massachusetts General Hospital, that only 33% of APNs and 44% of physicians discussed
end-of-life care with their patients who were critically ill (Ganguli et al., 2016). The reason for the lower numbers of end-of-life care discussion can be attributed to barriers that physician and APNs are experiencing (Ganguli et al., 2016). With APNs previously not being able to witness MOLST forms, there is little research that identifies APN barriers to MOLST documentation. APNs now have the same role as a physician in MOLST documentation in New York State (The New York State Senate, 2017). One of the reoccurring barriers that were identified in many studies was the lack of education that providers felt that they had on end-of-life care discussions and MOLST documentation (Bernacki & Block, 2014; Ganguli et al., 2016; Hickman et al., 2015; Schlegel & Shannon, 2000). One of the deficiencies was on legalities regarding the completion of an advanced directive; who is allowed to make health care decisions for another person? (Schlegal and Shannon, 2000). One study found that some health care providers were unable to correctly define the terms “do not resuscitate” and “do not intubate”, which are main terms used in MOLST documentation (Pirinea, Simunich, Wehner, & Ashurst, 2016). Another barrier that was prevalent among Health Care Providers identified a decreased level of comfort in end-of-life care discussions, whether it being because the difficulty of the topic or because they did not feel that they had experience in end-of-life care and MOLST discussion (Bernacki & Block, 2014; Ganguli et al., 2016; Hickman, Keevern, & Hammes, 2015). Difficulty with patient prognosis was also another barrier that was addressed by health care providers (Bernacki & Block, 2014). More research is needed in order to identify if these are barriers are also experienced by APNs, and if so, the specific areas of a MOLST discussion and documentation should be identified.

Along with discussing the barriers of MOLST discussions, many articles have also provided possible solutions that could be implemented to improve MOLST discussions.
Researchers have suggested that educational or decisional support tools be developed to give to providers to increase their knowledge of end-of-life care (Bernacki & Block, 2014; Hickman et al., 2015; Pirinea et al., 2016). However, research currently lacks in identifying the specific areas of a MOLST form that providers feel inadequate discussing. It is necessary to identify specific areas to be included in provider education for APNs on MOLST discussions and documentation.

A many of the studies regarding MOLST forms and end-of-life care have been conducted in the palliative or oncological settings. Evans, Ball, and Wicher (2016) conducted research in a cancer institute with palliative care providers regarding MOLST implementation. The authors found that MOLST education with the palliative care team increased confidence in discussing end-of-life care in providers and lead to increased rates of MOLST documentation (Evans et al., 2016). Constantine, Dichiachio, Falkenstine, and Moss (2018) found that APNs in a palliative care setting have been successful in Physician Orders for Life-Sustaining Treatment (POLST) documentation in West Virginia where APNs to sign POLST forms but did also state that APN POLST research should be done in other setting to identify specific APN needs. Research that has been conducted in a palliative or oncological setting is helpful in showing successful interventions with education to increase MOLST discussions and enhance end-of-life care, however, research is currently lacking in other health care environments and is necessary since many APNs do not work in palliative care settings.

Increasing the number of MOLST discussions and having documentation on a patient’s chart is important when a patient is hospitalized. Recognizing perceived barriers that APNs experience in practice during end-of-life care discussions is a step towards increasing the completion of these forms. Although there is some current research into what these barriers are for physicians, research regarding APN specific barriers is lacking. Studies have not identified
specific areas of education or self-efficacy that contribute to APNs involvement in advance directive discussions. A study that assesses APN knowledge and comfort in MOLST discussions and end-of-life care can identify areas that should be focused on in MOLST education and lead to developing an educational tool that is APN specific.

**Trajectory Model of Nursing**

When discussing MOLST documentation as an Advance Practice Nurse, it is important to be able to look at the trajectory of the patient and be able to take any illness into consideration in order to create the best plan of care for a patient. Corbin and Strauss’ trajectory model is a framework that can be utilized to take the appropriate steps in assessing, planning, and implementing care for chronically ill patients. To help better understand illness, the model presents eight stages of disease which consist of the initial or pre-trajectory phase, trajectory onset phase, crisis phase, acute phase, stable phase, unstable phase, downward phase, and dying phase (Current Nursing, 2013; McCorkle & Pasacreta, 2001). Knowing which phase a person is in can assist a provider with making the appropriate care plan based on the expected outcome. Along with the eight stages of disease, the framework displays six steps to use in practice to develop a plan of care for patients dealing with a chronic illness. The six steps of this model apply to this capstone in that it can be utilized to help providers feel more comfortable in bringing up and discussing end-of-life decisions through a MOLST form through following these steps.

The first step in the model is to identify the trajectory phase. The trajectory phase identifies the point where a person is in their disease (McCorkle & Pasacreta, 2001). For example, a patient with chronic kidney disease stage four who is now on constant hemodialysis due to their extremely reduced kidney function would be identified to be in the downward phase.
By identifying the trajectory phase for a patient, APNs can have a better idea of what types of interventions would be appropriate for a patient and be able to feel more comfortable having that conversation.

The second step of the model is to identify problems and establish goals for the patient. This is where a MOLST form can first be initiated and discussed. APNs can feel more comfortable by beginning with this step as an introduction to the MOLST form for patient by showing them their options of care and allowing them to state their goals and compare them to what on a MOLST form.

The third step of the model is to provide plans to meet these goals. This phase is where education for APNs on MOLST decisions will start to be utilized and gaps can be identified here. When discussing a MOLST, it is important to know what the outcomes of the interventions will be so we know if the decisions that are being made could accomplish those goals. Educating APNs on outcomes of decisions such as CPR and intubation can help provide patients with better information for them to be able to make better decisions for themselves. The MOLST documentation should reflect the goals of the patient.

The fourth step is to identify barriers to goal accomplishment. Barriers cannot only come from the provider, but also from the patient or family if they are hesitant with the plan of care. This step can also be applied to a MOLST form by identifying if any of the listed interventions would inhibit goal attainment. For example, if a patient’s goal is to not have to depend on a ventilator to prolong their life, intubation could be considered a barrier to that goal.

The fifth and sixth step have to do with implementing interventions and assessing the effectiveness of the interventions. During these steps is where the APN would discuss whether they felt comfortable discussing the MOLST form and making decisions with patients. It would
also be important to look into whether APNs felt that education on the outcomes of MOLST decisions affected the MOLST decisions and whether providing these outcomes would lead to the interventions being effective in meeting patient goals (Granger et al., 2006). The final goal does not have to be completion of a MOLST form. The goals of the fifth and sixth steps are first to have the patient and family understand their options of care for the patient through having had the options explained by the APN. The second goal is to have the patient, family, and APN showing the effectiveness of this conversation by making end-of-life care decisions that are comfortable for everyone involved.

Proposed Methods

Study Design

This study was a descriptive analysis in the form of a survey that consisted of three types of questions; sociodemographic questions, nominal questions and a Likert scale. The first section of the survey consisted of sociodemographic questions. The second set of questions on the survey consisted of questions in the form of a 5-point Likert scale. This scale was used when assessing the comfort and confidence of APNs conducting end-of-life care discussions, with respondents having a selection of feeling very uncomfortable to very comfortable. Answers were scored on an ordinal level. The third section of the survey included questions about actual knowledge of APNs regarding sections of a MOLST form including Cardio-Pulmonary resuscitation, Intubation, Feeding tubes and Antibiotics. There were also additional questions that pertained to a MOLST being filled out and initiated. These areas are the key points when discussing end-of-life care. These questions were assessed on a nominal level. The number of incorrect answers to survey questions identified the gaps in knowledge of APNs in discussions of
MOLST forms and end-of-life care. The tools that were used included a survey developed by the researcher, with expert faculty review, that was completed for the knowledge questions.

Population Sample and Setting

The targeted population was Advance Practice Nurses in adult care settings who work at a local organization in Western New York. The facility is a large health care organization that includes many hospitals, long-term care centers, and outpatient centers. Inclusion criteria for participants were APNs with either their Masters or Doctorate degree, any age, currently working in a hospital setting in New York State, caring currently for adult patients, and no minimum experience as an APN was required. Exclusion criteria included neonatal or pediatric APNs, student APNs who may be completing clinical at the facility and APNs who are practicing outside of New York State. All APNs in the organization who meet the inclusion criteria received the survey via e-mail. Survey monkey is an online survey tool that was used to send out the surveys to participants. Participation in the survey was voluntary.

Sources of data collection included APNs that met that required inclusion criteria. The organization was roughly thought to have 250 Advanced Practice Nurses working in their facilities in an adult population. After more discussion with Kaleida Health, it was found that 117 APN’s were employed through Kaleida Health who met the inclusion criteria. The initial sample size was thought to be 50 respondents based on the original assumption of 250 available APN’s. The number of respondent was updated to 24 respondents with taking into consideration the updated number of APNs who actually met the inclusion criteria, which was 117 APNs. This was decided based on information stating that an average internal response rate for surveys is 30% to 40%, while external survey responses are 10% to 15% (Fryrear, 2015). The survey was not mandatory and respondents were not being offered an incentive to complete the survey,
which are benefits of an internal survey that are being excluded. For this reason, the average response rate expected will be in between the internal and external response; a 20% return rate. The survey was created and dispersed through survey monkey with a link being sent through Kaleida Health email addresses.

With 117 surveys being sent, a total of 32 APN’s responded that met the inclusion criteria. However, after reviewing the surveys, only 24 respondents were included due to 8 respondents not completing the survey in its entirety.

Survey Procedure

The survey was composed of three different types of questions; the first being sociodemographic questions, the second being questions assessing the level of comfort of areas in a MOLST discussion, and the third type of questions were assessing the knowledge of MOLST discussions and a MOLST form. The sociodemographic questions were presented on a nominal level. The knowledge questions were also on a nominal level and were presented in both multiple-choice format and true and false format. The questions assessing level of comfort were presented in a Likert scale format on the ordinal level (Appendix A).

The survey that was developed for this project was based on the fact that a tool currently does not exist that assessed the knowledge of a MOLST form and the comfort in discussing a MOLST form. Pirinea et al. (2016) conducted a study that assessed provider knowledge on do not resuscitate (DNR) and do not intubate (DNI) status that was referenced when completing the nominal survey. The New York State MOLST form was also referenced during the development of questions that were specifically based off of sections in the MOLST (New York State Department of Health, n.d.). For information that was included in the survey that dealt with implications and indications for filling out a MOLST along with additional information about the
form that is not included on the form, the general instructions for the MOLST were referenced (New York State Department of Health, 2012b). Reliability and validity of the survey is not available since the survey had not previously been used. Since the survey had not previously been used, it was first tested among APN faculty at the University at Buffalo in order to assure that the goals of the project were being met through the survey and to ensure validity and reliability. The survey was sent out to nine faculty members requesting that they only return the survey if there were suggested changes. One faculty member responded requesting two changes to be made to the survey. After the changes were made, an addendum for this change was submitted to the IRB. IRB approval of the updated survey was obtained, and the survey was then distributed through the capstone intervention site’s list-serve that was provided by Kaleida Health. APNs were notified that participation was voluntary. They were not notified of the goal of the project, identifying comfort and knowledge gaps with MOLST’s, to ensure that there was no bias to answers. Identifying information was excluded and each APN was assigned a unique 4-digit number to ensure confidentiality.

**Data Analysis**

An initial descriptive analysis was used to group and assess the individual results of each sociodemographic, knowledge, and comfort question. Looking at the knowledge and comfort level questions individually identified if there were any gaps in comfort level and knowledge during MOLST discussions. A chi-square test with cross tabulation was used to assess for differences between APN sociodemographic data and their knowledge and comfort level, based off of the survey. A correlation did not pertain to this research since there was a lack in two continuous variables. Using cross tabulation and a chi-square test, individual knowledge and comfort questions were looked at with sociodemographic data to identify if specific gaps are
consistent with certain sociodemographics of APNs. The total number of correct knowledge questions answered was also cross tabulated with APN sociodemographic data to assess knowledge of MOLST forms as a whole and to identify any significance with sociodemographic data. When collecting and analyzing the data, SPSS 24 was used.

**Ethical and Human Subject Considerations**

IRB approval was obtained since human subjects were being used in this research. IRB approval involved the University at Buffalo as well as Kaleida Health. Kaleida Health was also notified of the study and was given a copy of the IRB approval. APN emails were provided by Kaleida Health to use in this study. APN’s were notified that the survey was regarding MOLST forms, was voluntary, and were informed of how the survey was being conducted. No official consent was developed for this research; the submission of each survey was acknowledged as consent for participation in the study. All APNs were assigned a unique 4-digit number to ensure no identifying information was being used. All information from the survey was stored in a secure, password protected location. No patient data was used during this project. The only focus was the Advanced Practice Nurses.

**Results**

Out of the 117 Advanced Practice Nurses that the survey was sent to, there were 32 respondents. When reviewing the surveys, 8 respondents missed one question from the survey, voiding the survey from being used in the data analysis, leaving a total of 24 surveys being analyzed. The respondents varied in age (Table 1), with a majority of respondents ranging from ages 30 to 34 years old (25%). The respondents consisted of Advanced Practice Nurses with certifications in Family Practice (29.2%), Adult Practice (45.8%), Women’s Health (8.3%), or another certification that was not listed (16.7%). A majority of the respondent’s highest level of
education was their master degree (91.7%) with the remaining having earned their doctorate degree (8.3%).

The amount of time that each APN had been practicing was included in the survey (Table 2), along with the amount of time they had practiced as a Registered Nurse (RN) before becoming an APN (Table 3). There was a shared in the amount of time APNs have been practicing, which was for either one to five years (29.2%) or six to ten years (29.2%). The majority of APNs practiced as Registered Nurses for less than five years (45.8%) before becoming APNs.

Current practice environments for APNs surveyed were either intensive care units (37.5%) or non-intensive care units that excluded long-term care environments (62.5%). The practice environments where the APNs had the most experience when working as RNs were also surveyed, with the environments being intensive care (45.8%), non-intensive care that excluded long-term care environments (33.3%), emergency department (16.7%), and a community clinic (4.2%).

Although MOLST forms cannot be signed independently within Kaleida Health, APNs have the ability to co-sign a MOLST with a provider. APNs were surveyed on if they had participated in signing a MOLST form since May 2018, with a majority stating that they had not signed a MOLST form (83.3%), and the remainder stating they have (16.7%). APNs were also asked about how many MOLST discussions they had over the past year, with the answers varying from no conversations (25.0%), less than ten conversations (16.7%), ten to thirty conversations (41.7%), and over thirty conversations (16.7%).

When looking at the comfort level of APNs regarding the sections of a MOLST discussion, most APNs reported that they felt very comfortable discussing the MOLST form.
45.8% of the APNs felt very comfortable introducing a MOLST form to patients and families. Half (50%) of the APNs were comfortable answering questions during a MOLST discussion pertaining to the form. 54.2% of APNs felt comfortable discussing Section A (resuscitation status) with patients and their families. 45.8% of APNs felt comfortable discussing comfort measures and intubation/ventilation status (included in Section E) on a MOLST. 41.7% of APNs felt comfortable discussing artificial nutrition measures and 50% felt comfortable discussing antibiotics use at end-of-life on a MOLST form. The last comfort level question regarded APNs being comfortable with being able to sign a MOLST form independently, which provided a variety of levels of comfort; very uncomfortable (8.3%), somewhat uncomfortable (16.7%), neutral (25.0%), somewhat comfortable (20.8%), and very comfortable (29.2%). Knowledge questions were looked at individually to assess the percentage of APNs that answered correctly and incorrectly on each question (Table 4). Knowledge questions were also looked at cumulatively to assess how many questions each APN had answered correctly out of the nine possible questions (Table 5).

Chi-square tests with cross tabulation were carried out between sociodemographic data, knowledge data, and comfort level data. The data collected did not offer two sets of continuous variables, and due to this, correlations were not possible. Significant differences instead were found after chi-square tests were completed. A significant difference was found between the total knowledge score and APN certification ($\chi^2 (4) = 12.78; p = .012$). Master level APNs scored higher on the number of knowledge questions that were answered correctly, although there are only two doctoral prepared APNs. The number of MOLST discussions in the past year and the practice environment of APNs showed a significant difference ($\chi^2 (3) = 13.33; p = .004$). APNs
that work in an intensive care unit have more MOLST discussions than APNs who work in non-intensive care settings.

When looking at the total amount of questions correct, no significant differences were identified with sociodemographic data. Individual questions were also looked at to see if there were significant differences between sociodemographic data and the individual score of each question. There were not many significant differences identified between individual questions and sociodemographic data, but the data that did show significant differences on individual questions included the APNs previous RN and current APN practice setting, the certification that is held by the APN, and the number of years an APN has been in practice.

Comfort level questions were cross tabulated and placed in a chi-square test with sociodemographic data, and multiple significant differences were found. Results showed that APN certification had an impact on the comfort level of introducing a MOLST form to patients and families ($x^2 (9) = 18.50; p = .030$). The comfort level of being able to answer questions regarding MOLST forms was significantly different when looking at APN certification ($x^2 (12) = 21.87; p = .039$) and APN practice environment ($x^2 (4) = 14.40; p = .006$). APNs who worked in an intensive care setting felt more comfortable answering questions than APNs working in non-intensive care setting. A significant difference was found between comfort questions pertaining to Section E of a MOLST (questions #12-15) and APN practice setting, with APNs working in an intensive care setting feeling more comfortable than APNs who work in a non-intensive care setting. There was also a significant difference between the comfort level in signing a MOLST form independently and APN practice setting ($x^2 (4) = 9.59; p = .048$), with APNs working in an intensive care unit being more comfortable than APNs in non-intensive care units.

**DNP Essentials**
DNP essentials were developed to, “address the foundational competencies that are core to all advanced nursing practice roles” (AACN, 2006, p.8). While completing this capstone, the DNP essentials were used to guide my practice and research to advance myself to the level of an APN by meeting these competencies.

I. Scientific underpinnings for practice

Scientific underpinnings for practice are the reason why the nursing field continues to advance and progress, and why nursing has been able to expand into doctorate level nursing practice. Nursing science involves not only developed theories from the past, but also developing new research that can be used for the future. Porter-O’Grady stated that a part of becoming a DNP graduate is being able to “have a wide array of knowledge gleaned from the sciences and have the ability to translate that knowledge quickly and effectively to benefit patients in the daily demands of practice environments” (as cited in AACN, 2006, p. 9).

With Nurse Practitioners now being able to sign MOLST forms as of May 2018, there is a new opportunity for nursing research so that Nurse practitioners can continue to advance their practice in the field of advance directives and patient care (The New York State Senate, 2017). With Nurse Practitioners having increased responsibility with MOLST forms, it was important to evaluate whether ANPs feel comfortable with this new responsibility as well as have knowledge of the MOLST form to ensure that it is being completed correctly. DeCapua (n.d.) stated that, “This DNP essential underscores the importance of using science-based concepts to evaluate and enhance health care delivery and improve patient outcomes”. Analytical methods were used in this capstone in order to identify knowledge and comfort gaps in MOLST discussions. This information can be used to move forward and develop educational tools or programs to further
the practice of APNs by increasing their knowledge and comfort level in MOLST discussions, which will also benefit their patient care.

II. Organizational and systems leadership for quality improvement and systems thinking

Knowing how to work within an organization is another important part of being a DNP graduate. “Graduates must be skilled in working within organizational and policy arenas and in the actual provision of patient care by themselves and/or others” (AACN, 2006, p. 10). This essential was achieved by working with an organization, Kaleida Health, during completion of my capstone. I not only worked side by side with the organization to obtain APN emails, but I also had to be aware of the MOLST policy within the organization, rather than only the policy that stands in New York State.

In order to obtain the email addresses of APNs within Kaleida Health, I had to educate myself of Kaleida Health’s policy regarding research, as well as work with the organization in order to obtain the email addresses. This research was very specific in the fact that I was only surveying APNs who work within Kaleida Health, so I also had to know the current MOLST policy within Kaleida Health. After speaking with APN’s in the surgical intensive care unit, I discovered that although APNs can sign MOLST forms independently within New York State, Kaleida Health policy has not allowed this yet. APNs within Kaleida can sign MOLST forms if they are the ones that have had the discussion with the patient or family, but still need a physician signature to accompany theirs on the MOLST form.

The research completed in my capstone provided information on a sample of APNs working within Kaleida and their comfort and knowledge level on MOLST forms. This information can be valuable to Kaleida Health because it allows them to see where APNs stand on whether they are willing to sign these forms independently in the future and if they have
enough knowledge to do so. Based on the completed research, results showed knowledge deficits on certain areas on a MOLST form as well as how the form is initiated and filled out. The comfort level on MOLST discussions was also decreased in APNs who work in non-intensive care units. This information can now be given to the organization so that they can provide better resources or education for APNs on MOLST forms.

III. Clinical scholarship and analytical methods for evidence-based practice

An important essential in the advancement of nursing practice is the addition of knowledge and research to the field of nursing. A DNP must be able to not only research new ideas and new ways to practice, but must be able to apply this new information to practice and integrate this new knowledge with current knowledge to make it usable (AACN, 2006).

When I was looking into previous research regarding APNs and MOLST forms, I found very little data that was specific to APNs. The reason being because until last year, May 2018, APNs were not able to sign MOLST forms independently. APNs are now able to sign MOLST forms independently, but there is still minimal research on how this is affecting APNs and if there are any issues with this expansion in their scope of practice. Using this DNP essential, this gap in knowledge was identified and it was apparent that research needed to be completed in this area in order to improve APN practice.

Through the MOLST discussion survey, I was able to collect current data on the comfort and knowledge level of a sample of APNs. Using the collected data, I analyzed the information, which showed gaps in knowledge and comfort level of APNs. By identifying these gaps, it is now known that information tools would be beneficial to APNs within Kaleida Health in order to improve the knowledge of APNs on MOLST forms. Continuing nursing scholarship and research would be the most beneficial step in addressing the lack of comfort in MOLST discussions.
Research during this capstone identified that there is a problem with comfort levels and a need for continued research in this area in order to find the best solution to this problem. Further focus groups and research on why APNs are not comfortable and what could be beneficial to them feeling comfortable would be the most productive next step in this research, and shows that clinical scholarship continued through practice.

IV. Information/systems technology and patient care technology for the improvement and transformation of health care

This DNP essential is centered on being able to utilize “information systems/technology resources to implement quality improvement initiatives and support practice and administrative decision-making” (AACN, 2006, p. 13). Technology utilization in a DNP graduate includes the use of technology to obtain and research preexisting data, complete developed research, and collecting research data and analysis through technology. Throughout my capstone project, technology was utilized in most of the steps and can also be used in future use of technology.

The collection of current data during my capstone was completed using online sources through health care databases. I was able to navigate through many sources until I found the information I needed to support my research. The development of the MOLST Discussion Assessment Survey was developed using technology, with it being created on the computer in a Word document, but also the information that was used to create the survey was derived from multiple online sources. Once the survey was created, the online tool Survey Monkey was utilized in surveying APNs in order to have the data collected within one place and providing confidentiality to the respondents. The received results were then exported into SPSS version 24 and the collected data was analyzed to assess for correlations and descriptive results. This data can now be utilized to improve APN practice, which will improve the care of patients.
V. Health care policy for advocacy in health care

Health care policy “creates a framework that can facilitate or impede the delivery of health care services or the ability of the provider to engage in practice to address health care needs” (AACN, 2006, p. 13). Health care policy is also what creates structure for practice within health care organizations in order to provide appropriate care and strive toward great health care outcomes. Essentially health care policy is what drives health care within organizations.

Kaleida Health currently has a MOLST policy that addresses all aspects of a MOLST discussion and how the form should be utilized and carried out. Kalieda Health also does not allow APNs in their policy to sign a MOLST form independently. With the completion of the research through my capstone, it could be suggested to Kaleida that they may want to develop a tool that reviews the MOLST policy with APNs in order to increase their knowledge on not only the MOLST form, but also how it is carried out in their facility. If we can improve the knowledge and comfort level of APNs on MOLST discussions within Kaleida Health, there is a greater chance that we can expand APN practice and revise the current policy, allowing APNs to sign MOLST forms independently along with the rest of New York State. Improving health care policy is important in health care organizations because it is what makes them stronger, better, and more advanced, which I know I have contributed to with this research.

VI. Interprofessional collaboration for improving patient and population health outcomes

An important part of being an Advanced Practice Nurse is being able to be a leader in a collaborative team that is interprofessional, including a variety of individuals who practice in different scopes (AACN, 2006). Utilizing communication and leadership skills when guiding a team will lead to success and great health outcomes for our practice and our patients.
Although APNs were the only ones surveyed on MOLST forms in this research, the organization currently only allows APNs to cosign a MOLST form with a Physician. So although this was not directly addressed within the research, it is important to note that there is still interprofessional collaboration within Kaleida when a MOLST form is being accomplished. Even when APNs are eventually approved to sign MOLST forms independently, it will still be important for APNs to continue to collaborate with other members of the health care team during these decisions if needed, and this should be included in future education to APNs.

Being the only researcher during this capstone, I was able to communicate with the Chief Nurse Executive at Kaleida Health along with other members of administration to obtain the APN emails that were used to send out the survey. Kaleida Health had also informed me that following my research, they would like to have access to the data so they can see what results were found from the survey. During the faculty review of the survey, I was also able to collaborate with an instructor in order to improve the survey before it was sent out to APNs. Through working with each of these individuals who all have a different scope of practice, I was able to develop my survey, obtain the APN emails, disperse the emails, and will in the future be able to discuss the outcome of the survey with administration at Kaleida Health.

VII. Clinical prevention and population health for improving the nation’s health

“Clinical prevention is defined as health promotion and risk reduction/illness prevention for individuals and families. Population health is defined to include aggregate, community, environmental/occupational, and cultural/socioeconomic dimensions of health” (AACN, 2006, p. 15). Essentially when these two ideas are combined, the final goal as an APN is to improve patient health within the population through our practice.
Previous research has shown that when a patient or family has an early discussion on end-of-life care and the goals that are important for them to achieve through this care, there is an increase in quality of life, more positive outcomes in care, and a reduction of unnecessary or unwanted medical care at the end-of-life (Bernacki & Block, 2014). Although health promotion and illness prevention is always a goal of APNs, disease happens, and then we are left to look at different types of prevention. MOLST discussion do not prevent illness, but they can help us provide our patients with the best care based on their illness trajectory, especially if their illness is fatal. Prevention at this point looks at preventing unwanted and unnecessary medical care that could alter out patient’s quality of life.

By looking for improvements in MOLST discussions that are provided by APNs, better health outcomes are being promoted that will follow the goals of the patient. This is also something that will affect population health because it is addressing the population that is seen within the organization of Kaleida Health. A MOLST discussion can also address topics such as culture and beliefs, integrating different aspects of a population into this discussion. Using the research found in this capstone, we can now have the ability to move forward and improve MOLST discussions provided by APNs so that we can achieve prevention of unwanted care for patients and have them make decisions that is best for them based on their views and beliefs.

**VIII. Advanced nursing practice**

A main part of being an Advanced Practice Nurse is being able to “conduct a comprehensive and systematic assessment of health and illness parameters in complex situations, incorporating diverse and culturally sensitive approaches” (AACN, 2006, p. 16). End-of-life care discussions incorporate all of these requirements of an APN. Assessing the comfort and
knowledge level of MOLST discussions was assessing how APNs function and how they are handling being in a complex situation.

Another part of being an APN is to “guide, mentor, and support other nurses to achieve excellence in nursing practice” (AACN, 2006, p. 17). The reason my research was conducted was to help other APNs by identifying gaps in knowledge and comfort so that moving forward, we can correct these deficits and give more APNs confidence in their practice when discussing end-of-life decisions through a MOLST form.

Discussion

After looking at the results, gaps in knowledge and comfort can be identified as well as sociodemographic data that may be related to these gaps. When looking at the knowledge questions individually, a majority of APNs were able to identify basic information regarding a MOLST such as the definition of do not resuscitate (DNR), do not intubate (DNI), and the length a MOLST form is valid for. Questions that addressed how the form is actually filled out and utilized are where gaps were identified. APNs showed a deficit in knowledge on if DNI can be selected in combination with a full CPR order, whom a MOLST form is most appropriate for, and who is allowed to sign a MOLST. Section E of a MOLST addresses decisions on limitations on care, such as choosing comfort measures or choosing to have no limitations. Questions that addressed information on Section E were another area where APNs showed a deficit of knowledge. There were some significant differences found between sociodemographic data and certain knowledge questions, however, due to having only 24 respondents, it is difficult to say these differences are definitive. Based on the significant differences identified, APN and RN practice setting and the amount of APN practice years may have a factor on the level of knowledge on MOLST forms.
The comfort level of APNs on most sections of a MOLST was mostly very comfortable and somewhat comfortable. When looking at the significant differences in the data between comfort level and sociodemographic data, the main affect on level of comfort was the APN practice setting. APNs working in an intensive care setting were shown to be more comfortable with MOLST discussions than APNs in non-intensive care settings. The comfort level of APNs signing MOLST forms was the only topic where comfort levels varied and there was no significant majority, showing that most APNs are not very comfortable with the responsibility to sign MOLST forms within Kaleida currently.

**Recommendations**

With the sample size only consisting of 24 respondents, moving forward, it may be beneficial to have a repeat survey completed among a larger group of APNs within Kaleida. This survey could also be repeated at different organizations in order to assess whether other health care facilities also have gaps in knowledge and comfort level with MOLST discussions. Although the sample size was minimal, gaps were still identified in both the knowledge of MOLST forms and comfort level in discussing a MOLST form. An educational tool or program could be developed that would in-service APNs within Kaleida on not only the basics of a MOLST form, but also on the areas where there were knowledge deficits; Section E of the MOLST and the background of how a MOLST form works. Because there was no outstanding evidence that sociodemographic data made a large impact on the way the knowledge questions were answered, this tool or program would be beneficial for everyone.

It was also identified that there was a lack of comfort in MOLST discussions in APNs who work in a non-intensive care setting. Going forward, it could be beneficial to develop a focus group with these APNs to see if there are reasons that can be identified to why they do not
feel comfortable discussing certain sections of a MOLST form or if there are other underlying reasons that may be causing a lack of comfort. A lack of comfort was also shown in APNs when actually having to sign a MOLST form, which was felt among all APNs. This may be something that will come with time since MOLST forms have only been able to be signed by APNs for one year. It is also important to remember that at Kaleida Health, APNs cannot yet sign them independently, so this also may be due to a lack of experience in signing a MOLST. A suggestion in moving forward in this area would be to develop another focus group with all APNs to identify why they do not feel comfortable signing a MOLST form along with what they think would increase their comfort level would help to identify further gaps in this area, and can lead to an opportunity to increase APN comfort levels within Kaleida so that in the future if they change their policy and allow APNs to sign a MOLST independently, they will be ready and feel comfortable to.

**Strengths**

Strengths of this capstone include being a study that is specific to Advanced Practice Nurses on their role in MOLST discussions rather than focusing on physicians, leading to new information in this field of practice for APNs. With the study being completed through a large local organization, Kaleida Health, this information can be used by this facility in order to make improvements in education and mentoring of APNs regarding MOLST discussion based off of the gaps that were identified in this capstone. This research also has the potential to be recreated in other organizations in order to assess their APN knowledge and comfort in MOLST discussions. With the survey being dispersed through an email, it made it easily accessible to APNs in the organization, which was able to provide a 20% return rate on the survey.

**Limitations**
Limitations include having a limited project sample size, only starting with 117 APNs to send out surveys to. Although 20% is an average response rate, due to the small sample size, the information is not as statistically significant as it could have been with a larger sample. Although the results are benefitting Kaleida Health, the results may not be applicable to other health care organizations. Kaleida Health also does not currently allow APNs to independently sign MOLST forms due to their policy, which may be different than other organizations. Evaluating only one organization can lead to bias results.

Online surveys can be open to interpretation without having an explanation for each question. This can lead to inaccurate results based upon misinterpretation of the questions. The survey being developed for this capstone did not have an established validity and reliability. Piloting the survey through a sample of University at Buffalo Nursing faculty may have decreased the chance of misinterpretation of questions, but there is not a guarantee. Taking an online survey can also lead to mistakes that are caused through technology, such as clicking on an incorrect answer when scrolling, or missing a question through scrolling. Sending a survey through an email can also limit the amount of respondents if emails are not checked frequently or if the respondent did not see the email.

**Conclusion**

The goal of this capstone was to find if there were gaps in knowledge or comfort for APNs in MOLST discussions. This goal was met, by identifying knowledge deficits and lack of comfort in APNs in MOLST discussions. Moving forward, more information can be obtained to further this research into tools and programs we can develop to now increase the knowledge and comfort level, so that in the future, APNs can continue to expand their scope of practice into being more involved in MOLST conversations and end-of-life care.
References


Table 1

*Current Age of Advanced Practice Nurses*

<table>
<thead>
<tr>
<th>APN age</th>
<th>Frequency (n=24)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30 years old</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>30-34 years old</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>35-39 years old</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>40-44 years old</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>45-49 years old</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>50-54 years old</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>55 and above</td>
<td>4</td>
<td>16.7</td>
</tr>
</tbody>
</table>
Table 2

*Number of Years Practicing as an Advanced Practice Nurse*

<table>
<thead>
<tr>
<th>Years Practicing as an APN</th>
<th>Frequency (n=24)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 year</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>1-5 years</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>6-10 years</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>11-15 years</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>16-20 years</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>&gt; 20 years</td>
<td>1</td>
<td>4.2</td>
</tr>
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</table>
Table 3

*Number of Years Practicing as Registered Nurse Prior to Becoming an Advanced Practice Nurse*

<table>
<thead>
<tr>
<th>Years Practicing as an RN</th>
<th>Frequency (n=24)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 years</td>
<td>11</td>
<td>45.8</td>
</tr>
<tr>
<td>6-10 years</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>11-15 years</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>16-20 years</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>&gt; 20 years</td>
<td>2</td>
<td>8.3</td>
</tr>
</tbody>
</table>
### Table 4

*Knowledge Question Frequency of Correct Answers in MOLST Discussion Assessment Survey*

<table>
<thead>
<tr>
<th>Question</th>
<th>Correct Answer</th>
<th>Percent of correct answers (%)</th>
<th>Percent of incorrect answers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the definition of do not resuscitate?</td>
<td>Do not attempt any resuscitation measures, allowing natural death.</td>
<td>75</td>
<td>25</td>
</tr>
<tr>
<td>What is the definition of do not intubate?</td>
<td>Do not place a breathing tube into a patient’s throat.</td>
<td>79.2</td>
<td>20.8</td>
</tr>
<tr>
<td>Do not intubate can be chosen if a patient has chosen to have a full CPR order.</td>
<td>True</td>
<td>58.3</td>
<td>41.7</td>
</tr>
<tr>
<td>If a patient chooses to have comfort measures only, it is still necessary to indicate on the MOLST form the patient’s choices regarding intubation, artificial fluids and nutrition, and antibiotics.</td>
<td>False</td>
<td>8.3</td>
<td>91.7</td>
</tr>
<tr>
<td>All sections of a MOLST form need to be filled out in order for the form to be considered valid.</td>
<td>False</td>
<td>54.2</td>
<td>45.8</td>
</tr>
<tr>
<td>If a patient chooses to have no limitations regarding their medical treatment, it is not necessary to indicate on the MOLST form the patient’s choices regarding intubation, artificial fluids and nutrition, and antibiotics.</td>
<td>True</td>
<td>54.2</td>
<td>45.8</td>
</tr>
<tr>
<td>How long is a MOLST form valid for?</td>
<td>Until voided by a patient due to goal changes or voided due to changes in a patient’s mental capacity or health status.</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Who is a MOLST form appropriate for?</td>
<td>Adults who are experiencing a serious progressing illness.</td>
<td>16.7</td>
<td>83.3</td>
</tr>
<tr>
<td>Who can currently legally sign a MOLST form in New York State?</td>
<td>Physicians and Nurse Practitioners</td>
<td>62.5</td>
<td>37.5</td>
</tr>
</tbody>
</table>
Table 5

*Total Knowledge Questions Correct by APNs*

<table>
<thead>
<tr>
<th>Number of correct answers</th>
<th>Frequency (n=24)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>1</td>
<td>4.2</td>
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<tr>
<td>2.00</td>
<td>6</td>
<td>25.0</td>
</tr>
<tr>
<td>3.00</td>
<td>8</td>
<td>33.3</td>
</tr>
<tr>
<td>4.00</td>
<td>7</td>
<td>29.2</td>
</tr>
<tr>
<td>5.00</td>
<td>2</td>
<td>8.3</td>
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<tr>
<td>6.00</td>
<td></td>
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</tr>
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<td>7.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A

MOLST Discussion Assessment Survey

1. What is your current age?
   a. Under 30 years old
   b. 30-34 years old
   c. 35-39 years old
   d. 40-44 years old
   e. 45-49 years old
   f. 50-54 years old
   g. 55 and above

2. What type of Nurse Practitioner certification do you currently hold?
   a. Family Nurse Practitioner
   b. Adult Nurse Practitioner
   c. Psychiatric Nurse Practitioner
   d. Geriatric Nurse Practitioner
   e. Women’s Health Care Nurse Practitioner
   f. Emergency Nurse Practitioner
   g. Other

3. How long have you been practicing as an Advanced Practice Nurse?
   a. < 1 year
   b. 1-5 years
   c. 6-10 years
   d. 11-15 years
   e. 16-20 years
   f. > 20 years

4. How long did you practice as a Registered Nurse before becoming an Advanced Practice Nurse?
   a. < 5 years
   b. 6-10 years
   c. 11-15 years
   d. 16-20 years
   e. > 20 years

5. What type of setting do you currently work in as an Advanced Practice Nurse?
   a. Intensive care unit
   b. Non-intensive care unit (excluding long-term care units)
   c. Emergency department
   d. Long-term care
   e. Rehabilitation unit
6. What type of setting did you have the most experience in when working as a Registered Nurse?
   a. Intensive care unit
   b. Non-intensive care unit (excluding long-term care units)
   c. Emergency department
   d. Long-term care
   e. Rehabilitation unit
   f. Private office
   g. Community clinic
   h. Immediate care
   i. Home health care
   j. Other

7. What is your highest degree obtained as an Advanced Practice Nurse?
   a. Masters Degree
   b. Doctorate Degree

8. How many times in the past year have you discussed a MOLST form with patients/families?
   a. None
   b. < 10 times
   c. 10-30 times
   d. > 30 times

9. How comfortable are you with introducing a patient and/or their family to a Medical Order for Life-Sustaining Treatment (MOLST) form?
   a. Very uncomfortable
   b. Somewhat uncomfortable
   c. Neutral
   d. Somewhat comfortable
   e. Very comfortable

10. How comfortable are you answering questions from patients/families pertaining to the Medical Order for Life-Sustaining Treatment (MOLST) form?
    a. Very uncomfortable
    b. Somewhat uncomfortable
    c. Neutral
    d. Somewhat comfortable
    e. Very comfortable

11. How comfortable are you with discussing with a patient/family the patient’s resuscitation status on the Medical Orders for Life-Sustaining Treatment (MOLST) form (Section A)?
    a. Very uncomfortable
    b. Somewhat uncomfortable
    c. Neutral
    d. Somewhat comfortable
12. How comfortable are you with explaining the definition of comfort measures with a patient/family that is included on the Medical Orders for Life-Sustaining Treatment (MOLST) form (Section E)?
   a. Very uncomfortable
   b. Somewhat uncomfortable
   c. Neutral
   d. Somewhat comfortable
   e. Very comfortable

13. How comfortable are you with discussing with a patient/family the patient’s intubation and ventilation options on the Medical Orders for Life-Sustaining Treatment (MOLST) form (Section E)?
   a. Very uncomfortable
   b. Somewhat uncomfortable
   c. Neutral
   d. Somewhat comfortable
   e. Very comfortable

14. How comfortable are you with discussing a patient’s artificial fluid and nutrition options with a patient/family on the Medical Orders for Life-Sustaining Treatment (MOLST) form (Section E)?
   a. Very uncomfortable
   b. Somewhat uncomfortable
   c. Neutral
   d. Somewhat comfortable
   e. Very comfortable

15. How comfortable are you with discussing a patient’s antibiotic options with a patient/family on the Medical Orders for Life-Sustaining Treatment (MOLST) form (Section E)?
   a. Very uncomfortable
   b. Somewhat uncomfortable
   c. Neutral
   d. Somewhat comfortable
   e. Very comfortable

16. How comfortable are you with now being able to sign a Medical Orders for Life-Sustaining Treatment (MOLST) form as of May 2018?
   a. Very uncomfortable
   b. Somewhat uncomfortable
   c. Neutral
   d. Somewhat comfortable
   e. Very comfortable
17. Have you signed a MOLST form since May 2018?
   a. Yes
   b. No

18. What is the definition of do not resuscitate?
   a. Do not attempt chest compression only
   b. Do not attempt artificial breathing only
   c. Do not attempt any resuscitation measures, allowing natural death
   d. Do not attempt defibrillation only

19. What is the definition of do not intubate?
   a. Do not place a breathing tube into a patients throat
   b. Do not use any type of intubation or ventilation mechanisms (including a breathing tube, noninvasive ventilation, and oxygen)
   c. Do not place the patient on a ventilator after intubation
   d. Do not use noninvasive ventilation

20. Do not intubate can be chosen if a patient has chosen to have a full CPR order.
   a. True
   b. False

21. If a patient chooses to have comfort measures only, it is still necessary to indicate on the MOLST form the patient’s choices regarding intubation, artificial fluids and nutrition, and antibiotics.
   a. True
   b. False

22. All sections of a MOLST form need to be filled out in order for the form to be considered valid.
   a. True
   b. False

23. If a patient chooses to have no limitations regarding their medical treatment, it is not necessary to indicate on the MOLST form the patient’s choices regarding intubation, artificial fluids and nutrition, and antibiotics.
   a. True
   b. False

24. How long is a MOLST form valid for?
   a. 90 days
   b. 1 year
   c. Each MOLST is only valid for one hospital admission
   d. Until voided by a patient due to goal changes or voided due to changes in a patient’s mental capacity or health status

25. Who is a MOLST form appropriate for?
a. Everyone age 65 years and old
b. Adults who are experiencing a serious progressing illness
c. Anyone, no matter age or health status
d. Adults who do not currently have an advanced directive

26. Who can currently legally sign a MOLST form in New York State?
   a. Physicians and Nurse Practitioners
   b. Physicians, Nurse Practitioners, and Physician Assistants
   c. Physicians only
   d. Physicians, Nurse Practitioners, Medical Students, and Physician Assistants
Appendix B
IRB Approval
November 3, 2018

Dear NICOLE ZAHN:

On 11/3/2018, the IRB reviewed the following submission:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Initial Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Study:</td>
<td>Identifying gaps in knowledge and comfort in MOLST discussions in Advanced Practice Nurses</td>
</tr>
<tr>
<td>Investigator:</td>
<td>NICOLE ZAHN</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>STUDY00002950</td>
</tr>
<tr>
<td>Funding:</td>
<td>None</td>
</tr>
<tr>
<td>Grant ID:</td>
<td>None</td>
</tr>
<tr>
<td>IND, IDE, or HDE:</td>
<td>None</td>
</tr>
<tr>
<td>Documents Reviewed:</td>
<td>• MOLST Discussion Assessment Survey.pdf, Category: Recruitment Materials;</td>
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<tr>
<td></td>
<td>• HRP-503-Template Protocol, Category: IRB Protocol;</td>
</tr>
</tbody>
</table>

The IRB approved the study from 11/3/2018 to 11/2/2019 inclusive. Before 11/2/2019 or within 30 days of study closure, whichever is earlier, you are to submit a continuing review with required explanations. You can submit a continuing review by navigating to the active study and clicking Create Modification / CR.

If continuing review approval is not granted before the expiration date of 11/2/2019, approval of this study expires on that date. The Initial Study materials for the project referenced above were reviewed and approved by the SUNY University at Buffalo IRB (UBIRB) by Initial Study Review. Before to 11/2/2019 inclusive. Before 11/2/2019 or within 30 days of study closure, whichever is earlier, you are to submit a continuing review with required explanations. You can submit a continuing review by navigating to the active study and clicking Create Modification / CR.

If continuing review approval is not granted before the expiration date of 11/2/2019, approval of this study expires on that date. or within 30 days of study closure, whichever is earlier, you are to submit a continuing review application with required explanations. You can submit a continuing review application by navigating to the active study in Click IRB and clicking Create Modification / Continuing Review. Studies cannot be conducted beyond the expiration date without re-approval by the UBIRB.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system.
HIPAA Authorization combined with consent document [delete section if not applicable]

The consent form document includes the HIPAA authorization for use/disclosure of personal health information and has met the required elements of the federal regulations of HIPAA.

HIPAA Partial Waiver granted for Recruitment [delete section if not applicable]

The UBIRB has approved the HIPAA Partial Waiver to permit you to receive personal health information as specified in section (1). The Partial Waiver Form has met the required elements of the federal regulations of HIPAA.

Full HIPAA Waiver [delete section if not applicable]

Based on the information you have provided in the “University at Buffalo Human Research Protections Program Request for Full Waiver of Individual Authorization for Use of Individually Identifiable Health Information” form (waiver request), the UBIRB has determined a full waiver of the individual authorization required by 45 CFR §164.508 for use or disclosure of protected health information is warranted based on the following criteria as specified in 45 CFR 164.512(i) (2). Accordingly:

A) The use or disclosure of protected health information involves no more than a minimal risk to the privacy of individuals, based on, at least, the presence of the following elements:

1) An adequate plan to protect the identifiers from improper use and disclosure;

2) An adequate plan to destroy the identifiers at the earliest opportunity consistent with conduct of the research, unless there is a health or research justification for retaining the identifiers or such retention is otherwise required by law; and

3) Adequate written assurances that the protected health information will not be reused or disclosed to any other person or entity, except as required by law, for authorized oversight of the research study, or for other research for which the use or disclosure of protected health information would be permitted by this subpart;

B) The research could not practicably be conducted without the waiver or alteration; and

C) The research could not practicably be conducted without access to and use of the protected health information.
A brief description of the Protected Health Information for which this alteration or waiver has been granted is provided on the “Request for Waiver of the Authorization for Use of Individually Identifiable Health Information” or “Request for Limited Waiver of the Authorization for Use of Individually Identifiable Health Information for Study Recruitment” which is part of this approval. If HIV information is requested, this waiver is only valid for disclosures consistent with New York Code Public Health Article 27-F.

This full waiver has been reviewed and approved for the above referenced study by the UBIRB to permit you to receive personal health information as specified in section (1) of the waiver request.

UB IRB approval is given with the understanding that the most recently approved procedures will be followed and the most recently approved consenting documents will be used. If modifications are needed, those changes may not be initiated until such modifications have been submitted to the UBIRB for review and have been granted approval.

Prior to the expiration of this approval, you will receive notification that it is time for the UBIRB to conduct its periodic review of your study. Studies cannot be conducted beyond expiration date without re-approval by the UBIRB.

As principal investigator for this study involving human participants, you have responsibilities to the SUNY University at Buffalo IRB (UBIRB) as follows:

1. Ensuring that no subjects are enrolled prior to the IRB approval date.

2. Ensuring that the study is not conducted beyond the expiration date without re-approval by the UBIRB.

3. Ensuring that the UBIRB is notified of:
   - All Reportable Information in accordance with the Reportable New Information Form Smart Form.
   - Project closure/completion by the Continuing Review/Modification/Study Closure smart form.

4. Ensuring that the protocol is followed as approved by UBIRB unless a protocol amendment is prospectively approved.

5. Ensuring that changes in research procedures, recruitment or consent processes are not initiated without prior UBIRB review and approval, except where necessary to eliminate apparent immediate hazards to subjects.

6. Ensuring that the study is conducted in compliance with all UBIRB decisions, conditions, and requirements.
7. Bearing responsibility for all actions of the staff and sub-investigators with regard to the protocol.

8. Bearing responsibility for securing any other required approvals before research begins.

If you have any questions, please contact the UBIRB at 716-888-4888 or ub-irb@buffalo.edu.
February 25, 2019

Dear NICOLE ZAHN:

On 2/25/2019, the IRB reviewed the following submission:

<table>
<thead>
<tr>
<th>Type of Review:</th>
<th>Modification: Slightly modified the survey w/ different language in question 2 and added an additional question 17.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title of Study:</td>
<td>Identifying gaps in knowledge and comfort in MOLST discussions in Advanced Practice Nurses</td>
</tr>
<tr>
<td>Investigator:</td>
<td>NICOLE ZAHN</td>
</tr>
<tr>
<td>IRB ID:</td>
<td>MOD00005117</td>
</tr>
<tr>
<td>Funding:</td>
<td>None</td>
</tr>
<tr>
<td>Grant ID:</td>
<td>None</td>
</tr>
<tr>
<td>IND, IDE, or HDE:</td>
<td>None</td>
</tr>
<tr>
<td>Documents Reviewed:</td>
<td>• MOLST Discussion Assessment Survey, Category: Recruitment Materials;</td>
</tr>
<tr>
<td>Personnel Changes:</td>
<td>None</td>
</tr>
</tbody>
</table>

The IRB approved this modification on 2/25/2019. The modification materials for the project referenced above were reviewed and approved by the SUNY University at Buffalo IRB (UBIRB) by [type] Review. The expiration date of this study is 11/2/2019. Before 11/2/2019 or within 30 days of study closure, whichever is earlier, you are to submit a continuing review application with required explanations. In order to avoid a lapse in IRB approval, it is recommended that you submit your continuing review at least 30 days for an expedited study and at least 45-60 days for a full board study, prior to the approval end date of the study. You can submit a continuing review application by navigating to the active study in Click IRB and selecting ‘Create Modification / CR’. Studies cannot be conducted beyond the expiration date without re-approval by the UBIRB.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within the IRB system.

UBIRB approval is given with the understanding that the most recently approved procedures will be followed and the most recently approved consent documents will be used. If modifications are needed, those changes may not be initiated until such modifications have been submitted to the UBIRB for review and have been granted approval.
As principal investigator for this study involving human participants, you have responsibilities to the SUNY University at Buffalo IRB (UBIRB) as follows:

1. Ensuring that no subjects are enrolled prior to the IRB approval date.
2. Ensuring that the study is not conducted beyond the expiration date without re-approval by the UBIRB.
3. Ensuring that the UBIRB is notified of:
   - All reportable information in accordance with the New Information SOP (HRP-024).
   - Project closure/completion by submitting a Continuing Review/Modification submission.
4. Ensuring that the protocol is followed as approved by UBIRB unless a protocol amendment is prospectively approved.
5. Ensuring that changes in research procedures, recruitment or consent processes are not initiated without prior UBIRB review and approval, except where necessary to eliminate apparent immediate hazards to subjects.
6. Ensuring that the study is conducted in compliance with all UBIRB decisions, conditions, and requirements.
7. Bearing responsibility for all actions of the staff and sub-investigators with regard to the protocol.
8. Bearing responsibility for securing any other required approvals before research begins.

If you have any questions, please contact the UBIRB at 716-888-4888 or ub-irb@buffalo.edu. Please include the project title and number in all correspondence with the UBIRB.
Identifying Gaps in Knowledge and Comfort in MOLST Discussions in Advanced Practice Nurses

Nicole Zahn
University at Buffalo
Spring 2019

Capstone Project Purpose
- To identify if there are any gaps in knowledge or comfort for Advanced Practice Nurses (APNs) when discussing MOLST forms through survey questions
- To identify the specific gaps in knowledge and comfort and to see if there is significance between the identified gaps and sociodemographic factors
- Make APNs aware of the gaps in knowledge and comfort that they have in MOLST discussions to help them identify areas of improvement to enhance their practice and lead to better MOLST discussions with their patients

Capstone Question
- In Advanced Practice Nurses (APNs) working in the adult care setting, will assessment of knowledge and comfort on MOLST form discussions identify gaps in knowledge or comfort for APNs?

MOLST
- Medical Order for Life-Sustaining Treatment (MOLST)
- Used in health care to allow a patient to document their treatment wishes at the end-of-life or in medical situations prior to the end-of-life.
- Contains sections A-F:
  A. Resuscitation Instructions When the Patient Has No Pulse and/or Is Not Breathing
  B. Consent for Resuscitation Instructions
  C. Physician Signature for Sections A and B
  D. Advance Directives
  E. Orders For Other Life-Sustaining Treatment and Future Hospitalization When the Patient has a Pulse and the Patient is Breathing
  F. Review and Renewal of MOLST Orders on This MOLST Form

(Revised: 5/16/2019)
Prior to May 2018, MOLST forms could only be signed by a physician in order to be considered valid.

As of May 2018, APN’s can now sign a MOLST form independently from physicians.

If a physician or APN signature is not obtained, the MOLST form is not considered an official legal document.

Senate Bill S1869A

- Allows Advanced Practice Nurses to legally sign a MOLST form validating the document in New York State
- Signed by Governor Cuomo in November 2017
- Placed into effect in May 2018

Background and Significance

- Research is lacking on Advance Practice Nurses with MOLST discussions, showing a gap in practice for APN’s
- The research that is present on APN’s is nonspecific to barriers in MOLST discussions, discussing only their perspectives on advanced care planning (Constantine, Dichiacchio, Falkenstine, & Moss, 2016; Schlegal & Shannon, 2000)
- Palliative care and oncology providers/APN’s have been the focus of MOLST research (Constantine et al., 2016; Evans, Ball, & Weiher, 2016)
Background and Significance

- Research has presented a need for further knowledge and education on MOLST forms, but lacks in identifying the areas that providers lack knowledge in (Bernacki & Block, 2014; Helman et al., 2013; Pirine et al., 2016)
- Guidance for an educational tool in future practice
- Increased MOLST discussions and implementation in APN clinical practice

Trajectory Model of Nursing

- 8 Phases of Chronic Disease:
  1. Pretrajectory (Initial)
  2. Trajectory Onset
  3. Crisis
  4. Acute
  5. Stable
  6. Unstable
  7. Downward
  8. Dying

- 6 Steps of the Trajectory Model:
  1. Identifying the trajectory phase
  2. Identifying problems and establishing goals
  3. Establishing plans to meet goals
  4. Identifying factors that facilitate or hinder attainment of goals
  5. Implementing interventions
  6. Evaluating the effectiveness of interventions

Application of Theory to MOLST discussions

- Guiding Advanced Practice Nurses to identify which stage of chronic illness a patient is in in order to guide health care decisions
- Using the Trajectory Model can guide a MOLST discussion for Advanced Practice Nurses
- Allows Advanced Practice Nurses and patients to work together to develop a plan of care and document patient care decisions (Granger et al., 2006)
Sample Criteria

Inclusion criteria:
- Currently working in an adult care setting (≥18 years old)
- Currently working in New York State
- Masters/Doctorate degree
- Any age
- Any level of APN work experience

Exclusion criteria:
- Currently working in a pediatric or neonatal care setting (<18 years old)
- Currently practicing outside of New York State
- Student APNs
- APNs not working at a Kaleida Health facility

Design and Methods

Quantitative analysis with descriptives using a survey method

Variables of Interest:
- Sociodemographics
- Current knowledge of APNs on MOLST discussions
- Current comfort level of APNs on MOLST discussions
- Gaps in knowledge in MOLST discussions in APNs
- Gaps in comfort in MOLST discussions in APNs

Data Collection

Sources:
- APNs in an adult care setting meeting the inclusion criteria
- Surveys were accessed through the Kaleida Health email system that provided a link to Survey Monkey
- APNs are not required to complete the survey

Environment:
- Survey developed specifically to assess MOLST knowledge and comfort
- Distributed online through email using Survey Monkey
• Assess APN knowledge of MOLST discussions and level of comfort when having MOLST discussions
• Knowledge assessment – presented at the nominal level using multiple-choice and true and false questions
• Comfort assessment – presented at the ordinal level using a 5-point Likert scale:
  - Very uncomfortable
  - Somewhat uncomfortable
  - Neutral
  - Somewhat comfortable
  - Very comfortable

• Sociodemographic data

MOLST Discussion Assessment Survey

• Sociodemographic questions:
  1. What is your current age?
  2. What type of Nurse Practitioner certification do you currently hold?
  3. How long have you been practicing as an Advanced Practice Nurse?
  4. How long did you practice as a Registered Nurse before becoming an Advanced Practice Nurse?
  5. What type of setting do you currently work in as an Advanced Practice Nurse?
  6. What type of setting did you have the most experience in when working as a Registered Nurse?
  7. What is your highest degree obtained as an Advanced Practice Nurse?
  8. How many times in the past year have you discussed a MOLST form with patients/families?
  9. Have you signed a MOLST form since May 2018?

• Knowledge and comfort question development:
  - MOLST form (New York State Department of Health, n.d.)
  - Reference of articles that have developed similar surveys (Pirinea, 2016; Schlegel & Shannon, 2000)
  - Reference of MOLST related information (New York State Department of Health, 2012)

MOLST Discussion Assessment Survey

• Not a previously existing survey
• Validity and reliability has not been tested
• Survey was played through University at Buffalo nursing faculty and was updated with requested changes
• Knowledge and comfort question development:
  - MOLST form (New York State Department of Health, n.d.)
  - Reference of articles that have developed similar surveys (Pirinea, 2016; Schlegel & Shannon, 2000)
  - Reference of MOLST related information (New York State Department of Health, 2012)
Knowledge questions:

1. What is the definition of do not resuscitate?
   a. Do not attempt chest compression only
   b. Do not attempt artificial breathing only
   c. Do not attempt any resuscitation measures, allowing natural death
   d. Do not attempt defibrillation only

2. What is the definition of do not intubate?
   a. Do not place a breathing tube into a patient's throat
   b. Do not use any type of intubation or ventilation mechanisms (including a breathing tube, noninvasive ventilation, and oxygen)
   c. Do not place the patient on a ventilator after intubation
   d. Do not use noninvasive ventilation

3. Do not intubate can be chosen if a patient has chosen to have a full CPR order.
   a. True
   b. False

4. If a patient chooses to have comfort measures only, it is still necessary to indicate on the MOLST form the patient's choices regarding intubation, artificial fluids and nutrition, and antibiotics.
   a. True
   b. False

5. All sections of a MOLST form need to be filled out in order for the form to be considered valid.
   a. True
   b. False

6. If a patient chooses to have no limitations regarding their medical treatment, it is not necessary to indicate on the MOLST form the patient's choices regarding intubation, artificial fluids and nutrition, and antibiotics.
   a. True
   b. False

7. How long is a MOLST form valid for?
   a. 90 days
   b. 1 year
   c. Each MOLST is only valid for one hospital admission
   d. Until voided by a patient due to goal changes or voided due to changes in a patient's mental capacity or health status

8. Who is a MOLST form appropriate for?
   a. Everyone age 65 years and older
   b. Adults who are experiencing a serious progressing illness
   c. Anyone, no matter age or health status
   d. Adults who do not currently have an advanced directive

9. Who can currently legally sign a MOLST form in New York State?
   a. Physicians and Nurse Practitioners
   b. Physicians, Nurse Practitioners, and Physician Assistants
   c. Physicians only
   d. Physicians, Nurse Practitioners, Medical Students, and Physician Assistants

Data Analysis

- Sociodemographic data, knowledge questions, and comfort level questions were individually assessed using a descriptive analysis.
- Knowledge and comfort level results cross-tabulated with sociodemographic data with a chi-square test performed to assess for significance in differences.
Results

APN Age (years)

APN Practice Time (years)

RN Practice Time (years)

APN Certification

APN Practice Setting

RN Practice Setting

APN Degree

Number of MOLST discussion in Past Year per APN

Question | Correct Answer | Correct (%) | Incorrect (%)
---|---|---|---
What is the definition of do not resuscitate? | Do not attempt any resuscitation, allowing natural death. | 75 | 25
What is the definition of do not intubate? | Do not place a breathing tube into a patient’s throat. | 79.2 | 20.8
If a patient chooses to have comfort measures only, it is still necessary to indicate on the MOLST form the patient’s choices regarding intubation, artificial fluids and nutrition, and antibiotics. | False | 8.3 | 91.7
All sections of a MOLST form need to be filled out in order for the form to be considered valid. | False | 54.2 | 45.8
Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Correct Answer</th>
<th>Correct (%)</th>
<th>Incorrect (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a patient chooses to forego all life-sustaining treatments and desires to have no limitations regarding their medical treatment, it is not necessary to indicate on the MOLST form the patient’s choices regarding intubation, artificial fluids and nutrition, and antibiotics.</td>
<td>True</td>
<td>56.4</td>
<td>43.6</td>
</tr>
<tr>
<td>How long is a MOLST form valid for?</td>
<td>Until voided by a patient due to goal changes or voided due to changes in a patient’s mental capacity or health status</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Who is a MOLST form appropriate for?</td>
<td>Adults who are experiencing a serious, progressing illness</td>
<td>16.7</td>
<td>83.3</td>
</tr>
<tr>
<td>Who can currently legally sign a MOLST form in New York State?</td>
<td>Physicians and Nurse Practitioners</td>
<td>62.5</td>
<td>37.5</td>
</tr>
</tbody>
</table>

Chi-square test significant differences:

- Total knowledge score and APN certification ($p = .012$)
- Number of MOLST discussions and APN practice environment ($p = .004$)
- Comfort of introducing a MOLST form and APN certification ($p = .030$)
- Comfort of answering MOLST questions and APN certification ($p = .039$)
- Comfort of answering MOLST questions and APN practice setting ($p = .006$)
- Comfort of filling out Sections E of MOLST (questions 12-15) and APN practice setting ($p = .007 - .003$)
- Comfort of signing a MOLST and APN practice ($p = .048$)
- Individual knowledge questions and:
  - Previous RN practice setting
  - Current APN practice setting
  - Degree that is held by the APN
  - Number of years an APN has been in practice

Results
I. Scientific underpinnings for practice

- New opportunity for nursing research since Senate Bill S1869A
- Analytical methods used that identified gaps in knowledge and comfort in MOLST discussions

II. Organizational and systems leadership for quality improvement and systems thinking

- Worked under Kaleida Health policy
- Identified gaps in knowledge and comfort can be used for policy change within Kaleida in the future

III. Clinical scholarship and analytical methods for evidence-based practice

- Minimal research was available on APNs regarding MOLST discussions/forms
- Analytical methods used to identify current gaps in knowledge and comfort that has set a foundation for continued research

IV. Information/systems technology and patient care technology for the improvement and transformation of health care

- Data collection and survey completed online and on computer programs (SPSS 24, survey monkey)

V. Health care policy for advocacy in health care

- Identified gaps in knowledge and comfort can be used to update MOLST policy within Kaleida Health

VI. Interprofessional collaboration for improving patient and population health outcomes

- Collaboration with Kaleida Health administration
- APN participation

VII. Clinical prevention and population health for improving the nation’s health

- Identifying gaps in MOLST knowledge and comfort levels to improve MOLST conversations
- Improving MOLST conversations leads to better end-of-HIOM care options for patient and better outcomes

VIII. Advanced nursing practice

- Assessing the comfort and knowledge level of MOLST discussions assessed how APNs function and how they are handling being in a complex situation
- Bridging these gaps in knowledge and comfort in MOLST discussions can lead to increased and improved MOLST discussions by APNs and decreased unwanted and unnecessary medical treatment on patients

Contribution to Capstone/Clinical Practice

- Identifying APN gaps in knowledge and comfort in MOLST discussions can highlight areas that increased MOLST education is needed
- Educational tools can now be developed based on the knowledge and comfort gaps that were identified
- Bridging these gaps in knowledge and comfort in MOLST discussions can lead to increased and improved MOLST conversations by APNs and decreased unwanted and unnecessary medical treatment on patients

Strengths

- Survey was easily accessible to respondents
- Research specific to APNs to further our practice
- Filling gaps in research regarding APNs and MOLST discussions/forms
- Kaleida Health utilization of results to further organizational policy and practice
- Serve as a foundation for future research in the area of MOLST discussions in APN practice
Limitations

- Limited project sample (decreases significance of results)
- One organization was the focus where APNs can currently not sign MOLST forms
- Online survey through email
  - Misinterpretation of survey questions
  - Technological difficulties
  - Decrease respondents who do not check their email
- No previously reported validity and reliability of developed survey

References


References


