I. **Overall Goal and Objectives**

East Carolina University (ECU) and Vidant Medical Group (VMG) are pleased to submit this proposal entitled "Enhancing Provider Education and Improving Healthcare Disparities in Chronic Myeloid Leukemia (CML) and Multiple Myeloma (MM) through a Rural Regional North Carolina Hospital Network". Funding of this proposal will provide training and standardize delivery of care for hematologic malignancies within an emerging regional Hematology Oncology Network that primarily serves a 29-county area of eastern North Carolina.

The main goal of this initiative is to ensure competency for physicians and nurses to provide state of the art care to patients with hematologic malignancies throughout eastern North Carolina. We have specifically chosen CML and MM because these disorders are likely to be treated in our regional facilities. We have seen rapid evolution of new diagnostic and treatment standards and believe the numbers of cases diagnosed each year in our region is manageable for a pilot educational project to keep providers abreast of changing standards for care of these malignancies.

In the two years of this project we will:

1) Expand provider knowledge of current national guidelines for diagnosis, treatment, and prognosis of CML and MM related to ordering, interpreting and implementing cytogenetic and molecular biomarker results. This will be achieved through a series of workshops, tumor boards, and online learning available to hematology oncology physicians.

2) Expand Nursing Education
    a. Provide nursing education specifically related the 2013 Oncology Nursing Society (ONS/American Society of Oncology (ASCO) guidelines for chemotherapy, including the appropriate storage, administration, handling and disposal of medications. Special attention will be given to use of the newer oral treatments for CML and MM which has transformed care of these malignancies.
    b. Provide nursing education about the latest molecular markers and diagnostic tests available to further ensure that appropriate tests are obtained for diagnosis and monitoring of therapy.

3) Patient education and assessment of compliance
    a. Improve patient education about their specific hematologic malignancy and the expected outcomes as well as potential side effects of therapies. Improve patient compliance with complex regimens which frequently include oral medications where compliance is very important to achieving the best clinical outcome and identify barriers to compliance.

4) Evaluation of the success of the interventions using surveys to access knowledge change and chart reviews to document adherence to NCCN guidelines.

II. Current Assessment of Need in Target Area

Vidant Medical Center (VMC) is an 861 bed tertiary referral center for nine small community-based hospitals in the Vidant Health System (VHS) located in eastern North Carolina. The bed capacity of these regional hospitals ranges from 21 to 142 beds with some functioning as Critical Access Hospitals. Oncology clinics are operational in five of these hospitals. In July of 2012, VHS contracted with ECU and Dr. Charles Knupp to spearhead the coordination of care within this Regional Oncology system linked to the tertiary medical center.

The five regional hospital sites will be: Vidant Beaufort, Vidant Chowan, Vidant Roanoke-Chowan, Vidant Edgecombe, and Outer Banks Hospital, as Hematology Oncology outpatient clinics and pathology services are presently operational at each facility. Each site presently has one or more generalist Hematology Oncology physicians, nursing staff who are either Oncology Nurse Certified (OCN) or who are working towards OCN certification, and chemotherapy infusion services. Among the five VHS hospitals, seven hematology oncology staff, five pathologists, and 16 nurses, will be the primary participants in this quality improvement study. There are an additional 21 private practice hematology oncology physicians in this region who are not presently associated with VHS. Already seven of these physicians have shown interest in our educational initiative and will be included during the second year.

The service area for the hospital network includes a 29-county area of eastern North Carolina, situated east of US Interstate 95 to the Atlantic Ocean and north of US Interstate 40 to the Virginia border. The interior of this region of North Carolina, besides the comparatively affluent coastal plain, is sparsely populated and poor, comprised of approximately 1.4 million persons, with an unemployment rate up to 21% in some counties and a median family (of four) income of $38,000. This region is ripe for development of an interconnected Hematology Oncology network to allow patients to receive standard of care cancer diagnosis and treatment close to home and to reduce healthcare disparities for all individuals in the region.

During the course of planning for improved coordination, several limitations have been recognized:

1) <u>Provider knowledge:</u> Physicians presently employed in the regional Hematology Oncology clinics are a mixture of academic Hematology Oncology faculty from ECU, private practice Hematology Oncology physicians, and Vidant Medical Group employed Hematology Oncology physicians. The diversity of the group is such that provider knowledge of the latest specific guidelines regarding diagnosis and treatment of hematologic malignancies is variable. We began by surveying our physicians regarding their present use and understanding of the latest NCCN guidelines regarding Hematologic malignancies. In our initial assessment, 100% of the providers completing the survey reported using NCCN guidelines frequently

(several times per month). Despite this frequent use, 80% of our regional physicians reported that they felt they had knowledge gaps related to the latest tailored therapies for hematologic malignancies and 60% reported confusion related to the appropriate use of the latest diagnostic tests for CML and MM. All reporting physicians expressed an interest in further educational efforts towards improving their understanding of the latest diagnostic and treatment guidelines in CML and MM including attending outside speaker lectures, improved use of tumor boards, and utilization of performance improvement activities. Based on this feedback, we have developed our initiative to address these deficiencies and thus improve provider knowledge and standardize use of the latest guidelines.

2) Standardization of Laboratory Services: Only one regional hospital site has on staff a full time ECU employed, School of Medicine faculty member with expertise in Hematopathology. Our other regional hospitals contract with different private practice Pathology groups in the region. Molecular and cytogenetic blood and bone marrow samples are presently sent to different reference laboratories. While not specifically included in this proposal, Dr. Ron Mageau, our hematopathologist, will begin working to standard the reference laboratory ordering and reporting of results across hospitals. We could not include this as study objectives, because we could not obtain a commitment from the VHG information technology staff to enhance the medical records system within the timeframe necessary to measure change. By standardizing the testing across the system, we will reduce the chance that ordering and interpretative errors are made by providers using different laboratories.

3) Oncology Nurse Certification (OCN): Our goal when developing our Regional Network in 2012 was to have 80% of nursing personnel providing care at these regional sites obtaining OCN certification within 5 years. While several regional hospitals have more than one OCN certified nurse on staff, most do not and we presently have an OCN certification rate among all clinics of approximately 40%. Our project will improve OCN certification completion by providing our regional nurses with Continuing Education (CE) credits which are a requisite for OCN certification. In surveying our nursing staff regarding patient education, the majority of nurses (almost 60%) reported being uncomfortable providing education to patients with hematologic malignancies and indicated a regional need for more education, especially with the newer oral anti-neoplastic medications. While OCN certification will not entirely eliminate the perceived problem of not being ready to educate patients, our survey data demonstrates that our OCN certified nurses scored higher in their comfort level with patient education than non-OCN certified nurses. The Oncology Nursing Society (ONS) in conjunction with the American Society of Oncology (ASCO) published its latest chemotherapy administration and safety standards in 2013 which outline the necessary requirements for safe administration of parenteral and oral chemotherapy drugs as well as standards for patient education related to the administration of oral and parenteral chemotherapy drugs and side effects of patient’s treatments. Greater awareness of these national ONS standards through the attainment of OCN certification is expected to ensure that the level of care given in the regional clinics is commensurate with national

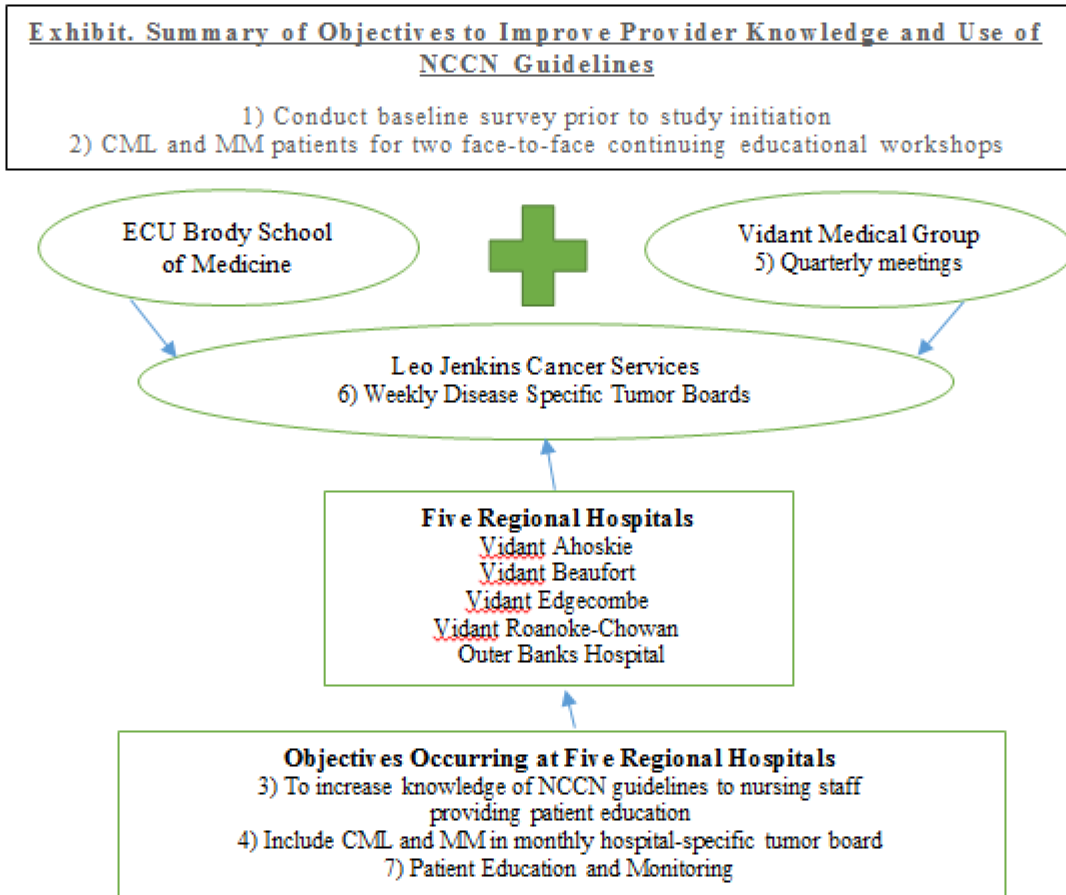
standards. We feel that an increase in the number of OCN certified nurses at our regional sites will positively impact our project by holding our staff to ONS standards for providing state of the art patient education and nursing care.

4) Patient Compliance: Patient compliance is particularly a problem with oral medications, including Tyrosine Kinase Inhibitors in CML and Revlimid and Dexamethasone in MM. Patients may lapse into non-compliance due to side effects, cost of long term treatment, lack of awareness of the importance of continued therapy or other reasons. Our patient population, with a low literacy rates and reading levels, will benefit from the additional strategies to empower them to remain compliant. Presently, our nursing staff provides face to face education for each patient at the time of initiation of therapy. Results of an on-line confidential nursing survey demonstrated that only 44% of our regional nursing staff felt comfortable providing face to face education to patients with hematologic malignancies including CML and MM. More than a third of our nursing staff said that they felt very uncomfortable or extremely uncomfortable with providing face to face education to patients with hematologic malignancies. When asked their opinion about how to improve patient compliance with complex oral regimens for CML and MM, nursing staff cited the initial face to face education, verification of regular pharmacy refills by patients, and repeat support group or nursing education as the most likely ways to improve compliance. Pill counts at each visit and having a resource room available for patient education were felt to be only moderately effective in improving patient compliance, however, some regional clinics noted that they do not presently have the workspace resources to dedicate to a patient self education room to confirm this impression. In addition, nursing staff noted that in several clinics they frequently did not have written educational resources available to provide patients with hematologic malignancies.

III. Intervention Design and Methods:

Our seven-part educational intervention is multifaceted to address the needs of the regional physicians, nurses, and patients on several levels. The interventions we plan will produce numerous opportunities to review the latest guidelines for diagnosis and treatment of CML and MM with the understanding that on-going access and review of guidelines in different settings will improve physician and nursing engagement and retention of complex information.

The Exhibit displayed below highlights the conceptual relationship between the organizational entities (ECU Brody School of Medicine, Leo Jenkins Cancer Services and five regional hospitals within Vidant Medical Group) and objectives of the seven educational components. The following sections will provide a description of each objective and how the objective will be implemented. Section 4 will follow and describe how the objectives will be evaluated.



3.1 Baseline Assessment

3.1a Provider Surveys

In preparation for this full application, we conducted two initial online surveys (Qualtrics online software) to physicians and nurses to access baseline knowledge in the diagnosis and treatment of CML and MM. Two 20 question surveys were developed, one for physicians focused on medical knowledge of latest NCCN guidelines for CML and MM and a second focused on nursing educational issues in CML and MM and patient compliance issues. The physician survey was emailed to both the hospital network regional Hematology Oncology physicians, and private practice Hematology Oncology physicians and the nursing survey was emailed to all nurses who has worked at least one shift in any of our regional Hematology Oncology clinics in the past 6 months. We are inviting private practice Hematology Oncology physicians (n=20) to participate in these workshops because strong ties already exist and this enhances care for CML and MM patients across the region. The baseline survey aimed to assess understanding and use of the NCCN guidelines. The data from this initial survey will be utilized for development of the year long program and in evaluation of the overall project in year 2.

3.1b Chart Review

At the initiation period for the grant, each site will perform a chart review of all patients with a new diagnosis of CML and MM within the past year to obtain data related to quality measures already being performed at baseline. These will be disease specific and include: for MM 1) the administration of Bisphosphonates within the past 12 months or documentation regarding contraindication; 2) Documentation of administration of appropriate vaccinations including Influenza and Pneumococcus; 3) Documentation of assessment of suitability for stem cell transplantation; 4) Documentation of staging; and 5) Documentation of utilization of IMiD therapy up-front or rational/contraindication to use.

For CML these will include: 1) bone marrow aspiration and biopsy performed at initial diagnosis; 2) administration of an appropriate Tyrosine Kinase Inhibitor at the time of initial diagnosis; 3) documentation of peripheral blood quantitative RT-PCR for BCR/ABL transcript utilizing the International scale at onset and at each three month follow up; 4) Documentation of adequate response by RT-PCR measured by a 2 log reduction in peripheral blood BCR/ABL transcript at 3 months; and 5) appropriate mutation analysis testing if a patient has not achieved appropriate response by 3 months. Each site will be responsible for entering site specific data into a database. Leo Jenkins Cancer Services Hematologic Malignancies Nurse Navigator, who has the task of helping facilitate care closer to the patient's home, will help each site maintain their patient database information.

3.2 Face-to-Face Workshops for Physicians and Nurses

We will schedule two educational seminars, one for CML and one for MM, at the beginning of the first year and at again the beginning of the second year in which nationally recognized experts from NCCN institutions will address diagnosis, treatment, and surveillance of CML and MM. At each of these seminars, our local clinical staff Dr. Mageau, Dr. Liles, and Dr. Knupp will provide some of the education by presentation of specific pathology guidelines and presentation of interesting case vignettes with particular teaching points. Learning objectives and curriculum for the workshop will be developed by the speakers and the project team. Planning for the workshops in year 1 will commence within the first two months of award.

At the beginning of each symposium we will have participants answer a group of medical knowledge questions utilizing PollEverywhere® Audience response software. Questions will be based on the latest NCCN guidelines for CML and MM. We have recently begun to utilize this tool for some of our important institutional conferences such as Internal Medicine Grand Rounds. These educational sessions are then uploaded to YouTube where our physicians can access them and review to clarify information. This has been so successful we plan to utilize the same technology for our symposia. This will allow people to participate who might not be able to attend a face to face meeting and also allow individuals who did attend to periodically review and solidify their understanding of medical knowledge as presented in the sessions.

During the second year of the budget we will plan two additional symposia with invited speakers who will provide latest updates in the medical knowledge and NCCN guidelines since

these guidelines are extensively updated each year. We will repeat assessment of the symposia pre- and post- speaker presentations to determine immediate grasp of medical knowledge. Educational seminars will be held after clinic hours in Greenville, NC, on the ECU medical campus, which is on-average about a 60 minute drive. We anticipate participation to be high, because the regional Hematology Oncology clinical staff has never convened in this format and have indicated a willingness to participate in this type of educational endeavor in our needs assessment surveys. These seminars will be videotaped and uploaded to YouTube format for dissemination to all participants. Participants will be notified of these YouTube videos by email and will be able to review all or parts of each seminar.

3.3 Nursing Education

Nursing staff will be invited to attend the invited speaker symposia sessions. In addition, face to face educational sessions will be conducted specifically designed to enhance their knowledge and understanding of these disease processes and to help them better assess patient compliance with therapy. The nursing sessions will focus on areas identified in the 2013 ASCO/ONS Chemotherapy safety administration standards related to medical knowledge of hematologic malignancies, patient instructions in the proper use of oral chemotherapy medications and knowledge of appropriate testing for hematologic malignancies particularly CML and MM. In regards to patient compliance issues the nurses will be educated in how to identify and deal with the problem of missed doses of oral chemotherapy as well as how to educate other family members to assume responsibility for administration of drugs if the patient is not able to self administer therapy.

The number of tests presently available for the diagnosis and monitoring of efficacy of hematologic disorders such as CML and MM has increased in number and complexity in recent years. Review of the number of tests available for BCR/ABL testing and mutational analysis through specialty laboratories, such as LabCorp, complicates and confuses individuals who are trying to ensure that the proper test is obtained for each individual patient. In most of these clinic sites, the nursing staffs are charged with selecting the precise specialized tests the physician has ordered from the repertoire of available reference laboratory tests and transmitting that information to laboratory personnel. Specific nursing education aimed at clarifying the use of each of these markers will improve communication between the physicians and the nurses and thus allow proper ordering and monitoring of patient response to therapy. Dr. Mageau, our Hematopathology expert, will provide the nursing educational seminars aimed at improving their understanding of the tests available and appropriate use of these tests.

3.4 Include CML and MM in Monthly Hospital Specific Face-to-face Tumor Boards

Each of the regional hospitals already has a tumor board which meets at least monthly or bimonthly and provides CME credit to attendees. While some Hematologic malignancy cases are occasionally discussed at these regional tumor boards, the focus is typically on solid tumor pathology. During this initiative, we will ask each regional site to review all bone marrow samples performed for the diagnosis of a hematologic malignancy at the monthly tumor board. Discussion around the case can then result in review of latest NCCN guidelines which will increase awareness about the latest guidelines as mandated by the Commission on Cancer

(CoC). We anticipate that over the course of the year we will see a 10% improvement in ordering of specific molecular testing for CML. Specifically, we would anticipate an improvement in the use of mutational analysis in patients with CML who have demonstrated an appropriate molecular response but who appear to be developing resistance based on reappearance of BCR/ABL construct. We also anticipate an improvement in medical knowledge of the specific cytogenetics in MM which indicates more aggressive disease and may call for different approaches to therapy.

3.5 Quarterly Regional Administrative Meeting
All members of our Vidant regional network already participate in a quarterly meeting by a webex to disseminate new information affecting all sites. This meeting will serve as a way to disseminate individual provider, and nurse medical knowledge data as well as data from the chart abstraction for each site. With all parties present, we can discuss data and decide upon which quality measures the group can explore as performance improvement projects.

3.6 Integrate Weekly Disease Specific Tumor Boards at Leo Jenkins Cancer Services
In addition to the general tumor boards at each site, we have developed disease specific tumor boards at Leo Jenkins Cancer Services in Greenville, NC, our tertiary care center. Our regional Hematology Oncology physicians are sometimes able to attend in person or are able to videoconference into these tumor boards to prospectively discuss more challenging cases. This integration allows our regional physicians to discuss their most difficult cases on a weekly basis with an expert in hematologic malignancies. This will allow further review and discussion of latest guidelines for diagnosis, treatment and follow up of these malignancies.

3.7 Patient Compliance and Monitoring
Our patient population is a rural, poor, and often undereducated population who frequently do not fully understand their oncology diagnosis. Because they are being given oral medication they may incorrectly assume that their disease is not life-threatening. The 2013 ASCO/ONS chemotherapy safety standards stress the difficulty of ensuring patient compliance with oral medications. CML is presently treated with oral medications which must be taken consistently for years. The medications may have uncomfortable and often have unpredictable side effects. Patients at diagnosis are fearful of a potentially lethal diagnosis and so are likely to be initially compliant, however, over time the patients often become less compliant, particularly since follow-up occurs at three months intervals. Similarly, MM is frequently treated with combinations of parenteral and oral medications some of which are only taken on a weekly basis which increases the likelihood of forgetting or misunderstanding the administration instructions. Financial issues, related to cost of drug and copays, present additional barriers to compliance. In our initial needs assessment nursing survey, several strategies for overcoming these barriers and improving patient compliance were identified. These strategies included improving our initial face to face nursing education program for patients with hematologic malignancies, development of a support group of patients with hematologic malignancies where nurses and other care providers can present information at regular recurring time points, pill counts of oral medications, compliance diary where patients maintain a calendar of

when they take their medications and nursing phone calls made to the pharmacy to ensure regular refills are occurring.

4.0 Evaluation Design

4.1 Baseline assessment
A needs assessment survey was performed at the inception of the idea for this proposal. These data will be used throughout the evaluation plan to measure improvement in use of current guidelines.

4.2 Face-to-Face Workshops for Physicians and Nurses
4.2a Pre and post-assessments of knowledge gained during the educational session will be conducted in a face-to-face format by way of PollEverywhere (www.polleverywhere.com) audience response software. We anticipate a 10% improvement in baseline medical knowledge from the pretest to the post presentation test.

4.2b On-line questionnaires will be performed monthly through Class Marker (www.classmarker.com) to measure retention of knowledge at 6 months, 12 months and 18 months. Participant's medical knowledge will be reassessed monthly (2-3 questions/month) utilizing an On-line assessment tool (www.classmarker.com). This assessment will not only serve to reassess medical knowledge but will allow us to provide a short review of the correct answer to reinforce retention of medical knowledge. Each individual participant with be provided his/her data of number of correct answers on the pre and post tests as well as their performance on the monthly assessments. This will allow each provider to understand their own personal deficits in medical knowledge. Questions posed to the group will be primarily case based questions which will include cases that have been seen and diagnosed at East Carolina University and which have an interesting learning point. An example of medical knowledge questions would include:

> *A 53 year old Caucasian female is referred to your clinic for progressive leukocytosis and fatigue. Last year her White Blood cell count was 17,500 k/uL and today in your clinic her White Blood Count is 78,000 k/uL. She is mildly anemic with hemoglobin of 9.8 gm/dl and her platelets are normal at 153,000 k/uL. The White count differential reveals a left shift with metamyelocytes, eosinophils and basophils but no blasts. You perform a bone marrow aspiration and biopsy which reveals t(9;22)(q34;q11) by standard karyotype.*
>
> *Which of the following fusion proteins would you expect to see in this patient?*
> *a) P190 BCR/ABL*
> *b) P210 BCR/ABL*
> *c) P230 BCR/ABL*
> *d) FIP1L1-PDGFRA*

4.2c Once the seminars are uploaded in YouTube, format participants can review pertinent points of these presentations to solidify specific learning points. We will track how frequently

these videos are accessed as a measure of physician engagement in the project. We anticipate that viewers will watch a specific portion of the video related to a specific question they have and will not usually view the entire video. However, participants who may not be able to attend one of the face to face seminars may view the entire video.

4.3 Nursing Education Evaluation

Nursing staff will be invited to attend the invited speaker symposia sessions. In addition, face to face educational sessions will be conducted specifically designed to enhance their knowledge and understanding of these disease processes to help them better assess patient compliance with therapy. The nursing sessions will focus on areas identified in the 2013 ASCO/ONS Chemotherapy safety administration standards related to medical knowledge of hematologic malignancies, patient instructions in the proper use of oral chemotherapy medications and knowledge of appropriate testing for hematologic malignancies particularly CML and MM.

We will utilize the on-line questionnaire tool Class Marker (www.classmarker.com) to assess nursing medical knowledge. In addition, since the nursing staff is expected to educate patients about their disease process and administration of their medications, we will re-survey our nurses about their comfort level with educating patients. Our initial Qualtrics survey had specific questions related to how comfortable our nurses were with their education role which we will use for comparison to later data.

4.4 Monthly Hospital Specific Tumor boards

Regional hospitals hold monthly or bimonthly general Hematology Oncology tumor boards. Most of the regional hospitals do not currently present hematologic malignancies at monthly tumor boards. The addition of these cases for presentation and discussion at all of the regional tumor boards is an innovation. After presenting CML and MM cases (about 1-3 new cases per month), we will evaluate the effectiveness of this measure by tracking the ordering of molecular testing for CML and MM. We anticipate that over the course of the year we will see a 10% improvement in ordering of specific molecular testing. Specifically, we would anticipate an improvement in the use of mutational analysis in patients with CML who have demonstrated an appropriate molecular response but who appear to be developing resistance based reappearance of BCR/ABL construct. We also anticipate an improvement in medical knowledge of the specific cytogenetics in MM which indicates more aggressive disease and may call for different approaches to therapy. The Summary Report of Indicators will capture changes in order over time.

4.5 Quarterly meetings

All members of our regional network already participate in a quarterly meeting by a webex to disseminate new information affecting all sites. This meeting will serve as a way to disseminate individual provider and nurse medical knowledge data as well as data from the chart abstraction for each site. With all parties present, we can discuss data and determine which quality measures the group would like to use as the basis for performance improvement projects.

4.6 Disease Specific Tumor Boards at Leo Jenkins Cancer Services
We have developed weekly disease-specific tumor boards through Leo Jenkins Cancer Services (LJCS) where challenging cases can be presented for discussion of best practices. We are now beginning to integrate our regional physicians into these disease-specific tumor boards. We have already successfully linked several of our regional physicians by video-conferencing for this purpose. The number of participants and number of CML and MM cases from regional hospitals presented at LJCS tumor board will be quantified over time. Effort will be coordinated to include a CML and MM new case for discussion. An improvement of 10% in participation and case presentation is expected.

4.7 Patient education and monitoring
We will assess patient compliance before and after institution of these strategies with several measures including: pill counts, documentation of regular pharmacy fills, assessment of patient diaries regarding when they actually took their medication. Unfortunately, for both CML and MM, there are not available objective laboratory tests to confirm compliance as compared to disease resistance. We do not yet have objective data on patient compliance at any of our regional sites, however, because of the low literacy rates and poverty level, we anticipate we have a high rate of non-compliance with the oral medications for both CML and MM. We anticipate we will be able to improve the patient compliance rate by 15% from baseline with the measures we have in place.

Overall Change and Impact of Educational Interventions
A primary evaluation tool will be to abstract patient charts over the course of 16 months to identify changes in use of standards recommended in the NCCN guidelines. Because the patient population is unlikely to exceed 50 new and existing patients across all five hospitals, it is likely that careful chart review and summation of changes will occur. An electronic abstraction form will be developed for use on a laptop computer that can be used to transcribe data. Paper charts are still in use at most of the regional hospitals, and often pathology information is in PDF format, requiring transcription. The nurse navigator, in conjunction with the nursing staff at each site, will abstract patient data for all new CML and MM patients quarterly for 16 months. Data collection is estimated to begin at approximately month 3. Each site will receive a report of how they are progressing for each quality measure in comparison to the group as a whole. The data from before and after the educational interventions will be compared for improvement. Site specific data as well as aggregate data will be shared with the group at the Quarterly administrative meeting. This data can be used to develop performance improvement measures for our regional sites. Data analysis will be performed quarterly and reported under Objective 5. Counts and percentage change will be provided. Statistical procedures will be used, such as test for difference in proportions, chi-square test, and other non-parametric tests appropriate for small samples sizes, were appropriate.

Detailed Workplan and Deliverables Schedule:
The grant period will extend over a two year period which will allow us to provide more in-depth education which is more likely to be sustainable beyond the completion of the grant.

Project Goal: To provide clinical continuing education training to standardize delivery of care for patients with CML and MM across 5 hospitals				
Objective 1: Conduct baseline survey prior to study initiation				
Activity (include timeframe)	**Inputs (staff, supplies, technology, equipment)**	**Expected Outcome(s)**	**Responsible Person(s)**	**Progress Reporting**
-identify questions for physician and nurse surveys (2 surveys)	Qualtrics software Prior NCCN surveys -lists of names	Final survey to be sent to providers	Liles	completed
Develop Qualtrics surveys	Qualtrics software	Final survey sent to providers	Liles	completed
Deploy surveys	Liles	Physician and nurse reply to survey	Liles	completed
Objective 1: Outcome indicators / Evaluation	**Data Collection and Timeframe**		**Result**	**Deliverable**
Percentage of physicians and nurses willing to participate	Survey results were assessed prior to grant submission to identify baseline knowledge and use of NCCN guidelines.		Liles	Response rates, and results of survey,
Objective 2: Convene physicians who diagnose and treat CML and MM for 4 face-to-face continuing educational workshops				
Activity (include timeframe)	**Inputs (staff, supplies, technology, equipment)**	**Expected Outcome(s)**	**Responsible Person(s)**	**Progress Reporting**

<table>
<tr>
<td>-Identify curriculum development team
- Develop curriculum for CML - Multidisciplinary case-based workshops during years 1 and 2
-Develop curriculum for MM - Multidisciplinary case-based workshops during years 1 and 2.
- Hold CML - Multidisciplinary case-based workshops during year 1 and 2
-Hold MM - Multidisciplinary case-based workshops during year 1 and 2.
-develop questions of Medical knowledge for pre and post seminar session and monthly on line posting to Class Marker.</td>
<td>-establish room location, dates
-invite speakers
-IT staffing / equipment
-curriculum planners
-catering
-invite all Hematology-Oncology physicians</td>
<td>-develop program content that can be used for other community-based programs
-recorded content to be shared on YouTube
-monthly Medical Knowledge questions to providers (www.classmarker.com)</td>
<td>- Liles
-Knupp
-Desai
-curriculum planning team
-nurse navigator (chart review), and other hospital-specific staff.</td>
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</tr>
<tr>
<td>Objective 2: Outcome indicators / Evaluation</td>
<td colspan="2">Data Collection and Timeframe</td>
<td colspan="2">Deliverable</td>
</tr>
<tr>
<td>-Increase physician knowledge of NCCN guidelines by 10% from baseline to end of workshop.
-Compare change in overall knowledge across time periods (baseline survey, workshops events, six and 12 months, post workshop by CML and MM.</td>
<td colspan="2">-Surveys administered at baseline and conclusion of workshop assessing knowledge of NCCN guidelines. (pre and post test).
-Measure retention of knowledge at 6 and 12 months, post workshop.
-“Clicker” response measurement technology will be used to conduct pre and post tests during the workshops.</td>
<td colspan="2">Slideset and handouts of materials distributed at workshop 1
-Slideset and handouts of materials distributed at workshop 2
-Summary Report of Survey Results</td>
</tr>
<tr>
<td>Count of hits on YouTube to estimate location and timing of viewing video</td>
<td colspan="2">Google Analytics will determine number of hits to watch video from both work shop over 1 year after posted.</td>
<td colspan="2">-You Tube video of workshop1
-YouTube video of workshop2</td>
</tr>
</table>

-Chart review at of existing patients prior to workshops and quarterly for 16 months. -Determine implementation of guidelines.	-Treatment documentation, prescription fills, orders of molecular markers, cytogenetic tests. -Determine use of guidelines by presence of orders and prescriptions reflecting current standards.	Report of Summary Indicators

Objective 3: To increase knowledge of NCCN guidelines to nursing staff providing patient education

Activity (include timeframe)	**Inputs (Resources needed, staff, supplies, technology, equipment)**	**Expected Outcome(s)**	**Responsible Person(s)**	**Progress Reporting**
-Invite nursing staff to physician workshops in year 1 and 2 -create small team to develop curriculum for nursing Face-to-face educational sessions by month 2, - establish workplan for nursing training within 6 months -develop curriculum for nurses, including ASCO/ONS chemotherapy safety, patient instructions, -explore mode of IT delivery NOTE: nurses currently meet quarterly on a Friday afternoon via the Vidant conferencing network through the nursing education department.	-logistics for face-to-face workshops -GoToMeeting or similar available thru ECU -Explore ShareCare Alliance network capabilities to deploy desktop training. -Schedule	-develop program content that can be used for other community-based programs -recorded content to be shared on YouTube	-Knupp -Mageau Desai -nurse navigator -nursing curriculum team	

Objective 3: Nursing Knowledge, Outcome indicator/Evaluation	**Data Collection and Timeframe**	**Deliverable**
Increase nursing knowledge of NCCN guidelines by 10% from baseline.	Surveys administered at baseline and conclusion of workshop assessing knowledge of NCCN guidelines. (pre and post test)	Summary Report of Survey Results

Count of hits on YouTube to estimate location and timing of viewing video for workshop 1 and workshop 2, and Quarterly education nursing conferences	Google Analytics will determine number of hits to watch video from both work shop over 1 year after posted.	YouTube video of nursing education program
Chart review at of new existing patients at quarterly for 16 months. By 6 months, 10% increase in orders for molecular tests.	For new and existing patients, treatment documentation, prescription fills, orders of molecular markers, cytogenetic tests. Document resistance to treatment given at baseline.	Report Summary of Indicators

Objective 4: Include CML and MM in monthly/bimonthly hospital-specific tumor board - innovation				
Activity (include timeframe)	**Inputs (staff, supplies, technology, equipment)**	**Expected Outcome(s)**	**Responsible Person(s)**	**Progress Reporting**
-Identify coordinator and schedules content for tumor board at 5 hospital, monthly, -Discuss new cases of CML and MM in the previous month diagnosed at each of 5 hospitals. -Include relevance to NCCN guidelines and steps to Identify and present CML and MM. -market to clinical staff about CML and MM inclusion in tumor board. NOTE:	-identify cases with bone marrow slides, and charts and identify presence or absence of NCCN guidelines as applied to each case. -charts, pathology reports, slides, treatment plan. -logistics of tumor board meeting	-clinical staff attending tumor board gains knowledge of NCCN guidelines, -increase regular attendance of tumor boards -include bone marrow slides in tumor board discussion	-Knupp -Mageau -pathologists who coordinate tumor boards	

Objective 4: Tumor Boards, Outcome indicator/Evaluation	**Data Collection and Timeframe**	**Deliverable**

Chart review at of new existing patients quarterly for 16 months. By 6 months, 10% increase in orders for molecular tests.	For new and existing patients, treatment documentation, prescription fills, orders of molecular markers, cytogenetic tests. Document resistance to treatment given at baseline.		Report of Summary Indicators	
Include CML and MM cases on monthly agenda	Number of times CML and MM cases are included on agenda each month		Agendas from 5 hospitals	
Increase in attendance at tumor board by nurses, physicians, and attending staff	Sign in sheet at each monthly tumor board		Sign in sheets, and email announcements of new content	
CME credits obtained	Physician complete CME test and requesting CME credit from AHEC.		CME records	
Objective 5 : Quarterly meetings held at each Vidant Hospital				
Activity (include timeframe)	**Inputs (staff, supplies, technology, equipment)**	**Expected Outcome(s)**	**Responsible Person(s)**	**Progress Reporting**
NOTE: Currently, physicians and nurses meet quarterly for administrative updates related to practice at hospital. At this meeting, participants will receive feedback on performance improvement across all hospitals and information on management aspects of project.	-coordinator of quarterly meeting at each hospital -teleconference line	Receive updates on performance improvement and management of project.	-Liles -Knupp -Lea	

Objective 5: Quarterly meetings Evaluation	**Data Collection and Timeframe**	**Deliverable**
Identify the number and type of improvement actions related to use of NCCN guidelines based on chart reviews	For new and existing patients, treatment documentation, prescription fills, orders of molecular markers, cytogenetic tests. Document resistance to treatment given at baseline.	Report Summary of Indicators

Objective 6: Integrate Weekly Disease Specific Tumor Boards at Leo Jenkins Cancer Services				
Activity (include timeframe)	**Inputs (staff, supplies, technology, equipment)**	**Expected Outcome(s)**	**Responsible Person(s)**	**Progress Reporting**
-Link weekly (Monday morning) hematology oncology tumor board to regional hospitals. -Connect IT capabilities for videoconference or Internet-based viewing of tumor boards to regional hospitals. Discuss new cases of CML and MM using NCCN guidelines.	-Information technology staff at LJCS, regional hospitals, and VMG.	-clinical staff attending tumor board gains knowledge of NCCN guidelines, -regularly attends tumor board,	-Knupp -coordinator	

Objective 6: LJCS Tumor Board, Evaluation	**Data Collection and Timeframe**	**Deliverable**
20% improvement in discussion of regional hospital CML and MM cases at LJCS tumor board.	Agendas and sign in sheet at each weekly meeting. Short evaluation at end of tumor board that includes questions about NCCN guidelines.	Agendas, short evaluation results

Objective 7: Patient Education and Monitoring				
Activity (include timeframe)	**Inputs (staff, supplies, technology, equipment)**	**Expected Outcome(s)**	**Responsible Person(s)**	**Progress Reporting**

Nurses will counsel patients on proper use and timing of medications for CML and MM	-Nursing staff at each hospital	Greater compliance with medications	-Nurse Navigator	
Nurses will instruct patients how to use patient diary to track medications	Nursing staff at each hospital	Patient will complete and return patient diary	-Nurse Navigator	
Develop patient diary	Nursing staff at each hospital	Diary will be developed by month five.	-Nurse Navigator	
Objective 7: Patient Monitoring, Outcome indicator/Evaluation	**Data Collection and Timeframe**		**Deliverable**	
Patients will take medications as prescribed	Pharmacy refills, patient diaries,		Report that summarizes assessment of patient compliance	
Pharmacy refills	Nursing staff will contact pharmacy to document prescription refill.		Report that summarizes assessment of patient compliance	
Patient diaries	Appointment staff and Nursing staff will remind patients to bring diaries into office at next visit.		Report that summarizes assessment of patient compliance	

Table of Objectives by Quarter and Month&								
	Year 1				Year 2			
Activities and Deliverables	1st Q 2014 Jun-Aug	2nd Q 2014 Sep-Nov	3rd Q 2014-15 Dec-Feb	4th Q 2015 Mar-May	1th Q 2015 Jun-Aug	2nd Q 2015 Sep-Nov	3rd Q 2015-16 Dec-Feb	4th Q 2016 Mar-May
Obj 2. Planning Years 1/2 Seminars	6,7				6,7			
Obj. 2 Years 1/2 CML seminar	8				8			
Obj. 2 Years 1/2 MM seminar		9				9		
Obj 2. Planning Year Two seminars				4,5				
Obj. 2 pre and post test seminar medical knowledge assessment	8	9			8	9		
Obj 2 Monthly (www.ClassMarker.com) Medical Knowledge questions		9-11	12, 1, 2	3-5	6-8	9-11	12, 1,2	3-5
Obj. 5 Share results of Medical knowledge		11	2	5				
Obj 4. Monthly Hospital tumor board presentation of CML and MM cases	8	9-11	12, 1, 2	3-5	6-8	9-11	12, 1,2	3-5
Obj 2. YouTube Video recordings	8	9						
Obj 2,3,4,6. Initial Chart review at each site for database (control patients)	6, 7, 8							
Obj 2,3,4,6. Addition of New patients to Database	6,7	9-11	12, 1, 2	3-5	6-8	9-11	12, 1,2	3-5
Obj 2,3,4,6. Comparison of patient results		11						
Obj 7. Patient education	8	9-11	12, 1, 2	3-5	6-8	9-11	12, 1, 2	
Obj 7. Monitoring patient compliance	8	9-11	12, 1,2	3-5	6-8	9-11	12, 1, 2	
Final Assessment and Report								3-5
& Month is represented by number within cell.								

Organizational Detail: Leadership and Organizational Capability:

The Brody School of Medicine at East Carolina University is the academic medical center serving Eastern North Carolina. Vidant Health is a 10 hospital system regionally centered in eastern North Carolina which has partnered with the Brody School of Medicine at East Carolina University to serve specialty needs throughout the region. The Vidant Medical Center located in Greenville NC serves as the academic teaching hospital for the Brody School of Medicine. The Leo Jenkins Cancer Center in Greenville is managed as a joint venture (Leo Jenkins Cancer Services) and functions as the tertiary outpatient cancer care facility for the region to provide higher level services not available in the regional Hematology Oncology practice sites and is staffed by university and Vidant physicians. Together, the Brody School of Medicine and the Vidant Health system, including its regional hospitals serve the 29 counties east of I-95. Currently, there are five Vidant outreach oncology clinics in the region. The Brody School of Medicine faculty, private practice community and Vidant employed physicians treat Hematology Oncology patients in these regional sites. In addition, other regional private practice Hematology Oncology physicians in eastern North Carolina interact with Brody School of Medicine and Vidant physicians on a collegial basis and are sources of referrals for specialized care at the medical center in Greenville. Vidant Medical Center and one of the regional hospital cancer care programs are currently accredited by the CoC. Another regional site is in the process of seeking accreditation. A goal for the system is to eventually have all sites accredited. In July of 2012, Vidant Health formally contracted with East Carolina University for Dr. Charles Knupp to serve as Medical Director of Vidant Health Regional Hematology Oncology. Dr. Knupp has been charged with integrating and standardizing the Hematology Oncology services offered at the five regional Vidant hospital clinics and helping to develop a care coordination model of integrated care linked to the tertiary care center to reduce access and other barriers to care. These efforts are designed to ensure that the standard of care for treatment of Hematology Oncology patients in the region is uniform and consistent with national guidelines. The link to the tertiary services in Greenville with the recent coordination of patient navigation services in Greenville and the regional clinics will make the transitions in care as seamless as possible for patients in the region. Regional physicians participate in their own regional tumor boards but are encouraged to participate in specific disease centered specialty tumor boards at the Leo Jenkins Cancer Center. Dr. Knupp is currently working with Vidant Health administrators to develop videoconferencing capabilities to allow all of the regional physicians to be able to attend these conferences from remote sites to minimize disruption in their practices with having to travel to Greenville to attend these conferences. Regional Hematology Oncology physicians are already videoconferencing into some of the Leo Jenkins Cancer Center Disease Specific tumor boards, in particular the GI Oncology tumor board, and during this initiative we will plan to coordinate in person and remote participation of regional Hematology Oncology physicians in our Malignant Hematology Tumor board.

The Vidant Health hospitals and the Brody School of Medicine clinics share the same EPIC electronic medical record platform (called Healthspan locally). Information technology integration occurs through joint efforts of the two institutions. Physician leaders from both

institutions work jointly with information technology services to optimize the use of the medical record across practices to ensure best practice across the systems. Dr. Knupp is a member of the Vidant Medical Group quality committee that that provides oversight to these efforts. Dr. Knupp also is a member of Vidant Health system-wide Pharmacy and Therapeutics committee which evaluates use of use of all pharmaceuticals, including anti-neoplastics, to establish proper use recommendations and whether these medications should be offered to regional clinics based on their limited resources or restricted to the tertiary care center to ensure best practice and safety. He is a member of the Leo Jenkins Cancer Center leadership council by virtue of his role in regional oncology for the Brody School of Medicine and the Vidant Health system. He and Dr. Darla Liles, who assists with regional Hematology Oncology care activities, work closely with Dr. Clyde Brooks, Vice President of Medical Affairs for Vidant Medical Group and his clinical operations team to optimize work flows in the Vidant Hematology Oncology clinics to ensure quality of care by VMG physicians. Drs. Knupp and Liles also work closely with Mr. Todd Hickey, the Vice President of Vidant Cancer Care Services and his staff, including Ms. Phyllis DeAntonio, RN, Director of VMG Cancer Services, to integrate cancer care services for the region in our hub and spoke model of integrated cancer care. An example of this fruitful collaboration is the integration of the tumor registries of Vidant Medical Center and the regional hospitals to better understand the incidence of various cancers in our region to better plan cancer prevention, control and treatment strategies.

Staff Capacity Knowledge and experience of team:

We have identified a qualified team to develop and implement the work plan**.** Darla Liles, MD will serve as the Principal Investigator. In addition to her duties as a senior faculty member of the Brody School of Medicine in Hematology Oncology, she was previously the program director for the Internal Medicine Hematology Oncology fellowship program. She currently serves as the Director of Accreditation for the Vidant Graduate Medical Education office. In her role in Graduate Medical Education, she is responsible for ensuring the institution and residency programs comply with the ACGME standards which include quality improvement and improvements in hhealthcare disparities. She has a long history of successfully educating Hematology Oncology physicians during their training. Dr. Liles is board certified in Hematology and has had 10 years of experience as a community-based hematologist within the Vidant network as well as clinical care of patients with hematologic malignancies at the Brody School of Medicine at East Carolina University.

Charles Knupp, MD, will serve as Co-Investigator. Dr. Knupp is board certified in Hematology and is the Regional Oncology Director, responsible for overall coordination of regional care. He has had 30 years of experience treating hematologic malignancies in an academic setting at the Brody School of Medicine at East Carolina University and over 20 years of experience providing Hematology Oncology care in a regional hospital setting. Dr. Knupp, in addition to his administrative roles, practices at the same regional hospital site as Dr. Mageau.

Ronald Mageau, MD, will serve as Co-Investigator. He is a Clinical Professor of Pathology, and Pathology Laboratory Director at Vidant Beaufort Hospital, will serve as coordinator for pathology. Dr. Ron Mageau is also a Brody School of Medicine faculty member in the department of pathology with Hematopathology training

Suzanne Lea, PhD, will serve as Co-Investigator. She is an Associate Professor of Epidemiology andwill conduct program evaluation. Dr. Suzanne Lea is a senior faculty member in the Brody School of Medicine in the Department of Public Health. Dr. Lea's area of research is cancer epidemiology with successful grant funding for projects related to improving cancer care in our region. She has published her research on implementing quality improvement tools in public health practice and is an active team member of the HRSA-funded grant to integrate quality improvement principles into medical education at the Brody School of Medicine (PI-Dr. Elizabeth Baxley, MD).

Dr. Tejas Desai will serve as Co-Investigator. He is an Assistant Professor of Medicine in the Division of Nephrology. He has expertise in producing YouTube educational videos for the Department of Internal Medicine educational programs. He has already developed an on-line site, Nephrology On Demand, where he posts educational materials for our residents and fellows and posts the Internal Medicine weekly Grand Rounds in YouTube format which is available to faculty as well as trainees. He will collect data about how frequently the videos are accessed by our regional providers or by other individuals across the country.

Ms. Chelsea Passwater, RN, is the nurse Navigator at Leo Jenkins Cancer Services. Her duties include education of patients and nurses in respect to latest diagnostic and treatment guidelines. She will also work with the sites to document the performance improvement data and patient compliance data.

Outside speakers with national reputation and expertise in CML and MM will be invited to provide presentations to our outreach physicians and nurses at the beginning of our initiative and again at the beginning of the second year of our initiative.

Together, this group has the necessary experience, expertise and synergistic integration to successfully carry out this project.

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NCCN Peer Review of Proposals Committee
National Comprehensive Cancer Network
275 Commerce Drive
Suite 300
Fort Washington, PA 19034

February 12, 2014

Re: Pfizer/NCCN grant program

To the Committee:

I am writing to provide my support of the Pfizer/NCCN grant application entitled "Enhancing Provider Education and Improving Healthcare Disparities in Chronic Myeloid Leukemia (CML) and Multiple Myeloma (MM) through a Rural Regional North Carolina Hospital Network" as proposed by Dr. Darla Liles and coworkers. I am pleased to demonstrate my support because this work is directly coherent with the breadth of effort at our medical school.

The Brody School of Medicine was established to train medical students and residents to provide care to our underserved region of North Carolina nearly 40 years ago. Cancer is one of the areas where there is a significant health disparity with excess mortality compared to other regions of the state.

Recently, the Brody School of Medicine was one of eleven medical schools awarded a $1 million American Medical Association Accelerating Change in Medical Education Initiative grant aimed at transforming the way future physicians are trained. We will implement a new core curriculum for medical students in patient safety and quality improvement that is integrated with other health-related disciplines to create and test new models of medical education.

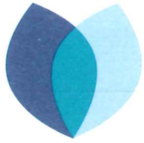
Through our integral collaboration with Vidant Health, health professionals at the Brody School of Medicine and Vidant Health are working together to educate providers, to improve the delivery of care to our rural, underserved population, and to reduce the health disparities that are prevalent in our region. This Pfizer/NCCN grant project is aligned with the Brody School of Medicine's mission to improve the health status of citizens in eastern North Carolina and fits in well with our novel educational initiatives.

In my role (s) as Vice Dean of the medical school and Medical Director of ECU Physicians, our multispecialty group practice, I fully support the East Carolina University Brody School of Medicine faculty in this project. I am pleased to offer my assistance to this project with a commitment of administrative support to guarantee access to resources and personnel as needed to ensure successful completion of this project. Thank you for considering this project for funding by your organization.

Sincerely yours,

Nicholas Benson, MD, MBA
Vice Dean
Medical Director, ECU Physicians
Associate Vice Chancellor for Healthcare Regulatory Affairs

East Carolina University is a constituent institution of the University of North Carolina. An equal opportunity university.



VIDANT HEALTH™

February 10, 2014

NCCN Peer Review of Proposals Committee
National Comprehensive Cancer Network
275 Commerce Drive, Suite 300
Fort Washington, PA 19034

Dear Sirs:

I am pleased to provide my support of the Pfizer/NCCN grant application entitled "Enhancing Provider Education and Improving Healthcare Disparities in Chronic Myeloid Leukemia (CML) and Multiple Myeloma (MM) through a Rural Regional North Carolina Hospital Network" proposed by Dr. Darla Liles and coworkers. Vidant Health is a regional hospital system serving eastern North Carolina, which is an underserved area of the state with numerous health disparities, including cancer mortality. Our hospital system is committed to improving physician education regarding cancer awareness, early screening and detection, and treatment to reduce this health care gap. Our physician driven, systemwide, quality team has been proactive in the utilization of the electronic medical record used in all of our regional hospitals to ensure best practice in the region and to work toward other ways to provide physician education to accomplish this goal. Vidant Health has recently been nationally recognized for its commitment to quality and improvement in patient care with the 2013 John M. Eisenberg Patient Safety and Quality Award from the National Quality Forum and the Joint Commission. The organization was specifically cited for Innovation in Patient Safety and Quality at the Local Level. During the past five years, Vidant Health has outlined a series of interventions to improve patient safety and quality that included board literacy in quality, an aggressive transparency policy, patient-family partnerships, and leader and physician engagement. Implementation of specific tactics associated with each approach has occurred over the past five years.

In my position at Vidant Health as Vice President, Medical Affairs for Vidant Medical Group, which employs the regional Vidant Hematologist/Oncologists, I am pleased to offer my assistance to this project with a commitment of administrative support to guarantee access to resources and personnel as needed to ensure success. Our Vidant Health institutional commitment to quality is well served by this grant proposal which is aligned with our mission to provide the best care possible for all patients, including Hematology/Oncology patients, in our region. I endorse the need for our physicians to continue to remain knowledgeable and provide best practice care during this period of tremendous change in medical care with the rapid development of new technologies, treatments and monitoring to measure success of care in Hematology/Oncology am excited that we are eligible for funding for this very important project.

Sincerely yours,

Clyde Brooks, M.D
Vice President, Medical Affairs

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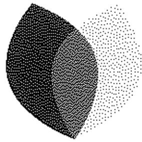


VIDANT HEALTH™

February 6, 2014

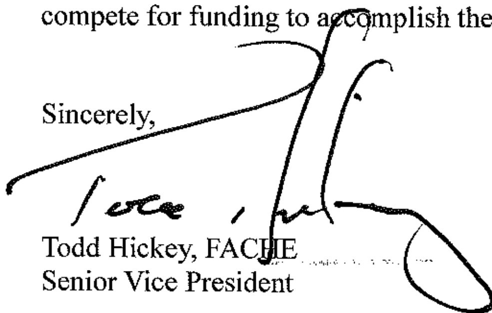
NCCN Peer Review of Protocols Committee
National Comprehensive Cancer Network
275 Commerce Drive
Suite 300
Fort Washington, PA 19034

Dear Sirs:

I am pleased to offer my support the Pfizer/NCCN grant application entitled "Enhancing Provider Education and Improving Healthcare Disparities in Chronic Myeloid Leukemia (CML) and Multiple Myeloma (MM) through a Rural Regional North Carolina Hospital Network" by Dr. Darla Liles and coworkers. Vidant Health is a regional hospital system serving eastern North Carolina, an underserved area of the state with significant health disparities including cancer mortality significantly higher than other areas of the state. In response to this unmet need, the Vidant Cancer Care program has been developed to link regional Hematology/Oncology clinics to the tertiary care center, Vidant Medical Center, through a care coordination program to offer specialized care not available in small regional clinics, to facilitate access to more basic cancer care close to home for patients in the region and reduce barriers to care. It is essential that the regional Hematology/Oncology physicians in the network are provided appropriate education and support to close clinical practice gaps to maintain quality of care across our region. Vidant Health has recently been recognized for its commitment to quality and improvement in patient care with the 2013 John M. Eisenberg Patient Safety and Quality award from the National Quality Forum and The Joint Commission. This grant proposal aligns well with our mission to provide the best cancer care to the patients we serve.

In my position at Vidant Medical Center as Senior Vice President for Cancer Services, I have been tasked with developing the Vidant Cancer Care program. Regional Hematology/Oncology physician education is crucial to ensuring consistent quality of Hematology/Oncology care across the regional network according to best practice guidelines to reduce health disparities and excess cancer mortality we see in the region. I am pleased to offer my assistance to this project with my commitment of administrative support to guarantee access to resources and personnel as needed to maximize our success. We are very pleased that your organization has allowed us to compete for funding to accomplish these endeavors.

Sincerely,



Todd Hickey, FACHE
Senior Vice President

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VIDANT HEALTH™

February 17, 2014

NCCN Peer Review Committee of Protocols
National Comprehensive Cancer Network
275 Commerce Drive, Suite 300
Fort Washington, PA 19034

Dear Sirs:

I am pleased to write a letter of support for the NCCN/Pfizer grant entitled "Enhancing Provider Education and Improving Health Care Disparities in Chronic Myelogenous Leukemia (CML) and Multiple Myeloma (MM) through a Rural Regional Hospital Network" by Darla Liles and coworkers. In my role as the Administrator for Cancer Services at Vidant Medical Center working closely with Mr. Todd Hickey, the Vice President for Cancer Services, I have the charge to operationalize the development of the Care Coordination system which links Vidant Medical Center to the regional Vidant Oncology clinics to standardize cancer care across our regional network. I have developed and currently oversee the patient navigation program for Vidant Health to facilitate consistent, state of the art care across our system by coordinating specialized cancer care at Vidant Medical Center when needed with referrals back to the regional cancer clinic sites for completion of basic cancer care. This effort is expected to minimize travel and expense and to maintain the overall quality of care for patients in our rural 29 county region of eastern North Carolina. Our Vidant Medical Center Malignant Hematology Nurse Navigator will be charged with providing nursing education for the educational interventions for the regional oncology nurses and help them prepare appropriate educational materials and counseling to patients with Chronic Myelogenous Leukemia and Multiple Myeloma. The "2013 Updated American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards Including Standards for the Safe Administration and Management of Oral Chemotherapy" clearly describes a need to better assess and ensure competency of nurses related to the newer oral anti-neoplastic agents used for malignancies such as Chronic Myelogenous Leukemia and Multiple Myeloma. Our Malignant Hematology Nurse Navigator will work with each of the regional oncology clinic sites to document compliance with National Comprehensive Cancer Network guidelines, including review of compliance with use of the appropriate molecular diagnostics and therapeutics, in addition to her role in nursing education. I believe this project, if funded, will help us to reach the level of standardized care we desire for every patient in our underserved region.

Sincerely yours,

Phyllis DeAntonio

Phyllis DeAntonio, RN, MSN, FAAMA
Administrator, Cancer Services

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