September 09, 2020

Mr. Vincent Davis
State Survey Agency Director
665 Mainstream Drive, 2nd Floor
Nashville, TN 37243

RE: RFA #34305-22320 Civil Monetary Penalty (CMP) Reinvestment Program Funding Opportunity

Dear Mr. Davis,

Please accept our proposal from Vanderbilt University Medical Center (VUMC) titled: "**Quality Improvement Collaborative for COVID-19 Prevention and Control in Middle Tennessee Nursing Homes.**"

The purpose of this project is to assist participating nursing homes in how to prioritize and effectively implement evidence-based recommendations for COVID-19 prevention and control, through a combination of quarterly facility assessments, tailored education and coaching, and a regional QI collaborative. This application addresses a critical issue in Tennessee, where the growth rate of COVID-19 is currently among the highest in the nation, placing nursing home residents at high risk of infection, hospitalization, morbidity, and death. Our preliminary work has identified an urgent need to provide nursing homes with practical hands-on assistance to help ensure the health of their residents, both now and as needs evolve over time during the pandemic.

This proposal extends beyond the COVID-19 QI initiatives being conducted by QIN-QIOs under CMS direction. Specifically, our multi-faceted proposal includes: 1) local engagement over a period of 18 months, with both virtual and on-site visits; 2) quarterly infection control assessments to identify evolving concerns; 3) targeted education and hands-on coaching to develop performance improvement plans, troubleshoot challenges, and achieve sustained improvement; 4) attention to unintended patient safety consequences of isolation practices, such as poor nutrition and skin care; 5) evaluation of program effects not only on COVID-19 infection rates but also on patient safety indicators, hospitalizations, and mortality; and 6) an engaging virtual QI collaborative that will facilitate sharing of best practices and problem-solving among facilities. Educational content will include evidence-based COVID-19 infection control practices, as well as advanced topics such as transitions of care and long-term consequences of COVID-19 infection such as physical deconditioning and cognitive impairment, drawing on nationally and internationally recognized experts from VUMC.

This work will directly benefit nursing home residents in approximately 75 nursing homes across Middle Tennessee, including facilities in distressed or at-risk counties, through prevention of infections, hospitalizations, morbidity, and mortality. Our multidisciplinary project team has the skills and experience needed to successfully carry out this proposal. Funds requested are $1,225,000 over two years. Thank you for your consideration of this application. We look forward to the results of your review.

Sincerely,

Sunil Kripalani, MD, MSc, SFHM, FACP
Professor of Medicine
Director, Center for Health Services Research
Director, Center for Clinical Quality and Implementation Research
Tel: 615-936-4875 | Email: sunil.kripalani@vumc.org

REQUEST

Date of Application: 07 / 31 / 2020
MM / DD / YYYY

PART I: Background Information

Name of the Organization: Vanderbilt University Medical Center

Address Line 1: Office of Sponsored Programs

Address Line 2: 3319 West End Ave, STE 970

City, County, State, Zip Code: Nashville, Davidson, TN, 37203-6856

Tax Identification Number: 35-2528741

CMS Certification Number, if applicable: ☐☐ – ☐☐☐☐

Medicaid Provider Number, if applicable: ☐☐ – ☐☐☐☐

Name of the Project Leader: Sunil Kripalani, MD,MSc

Address: 2525 West End Avenue, STE 1200

City, County, State, Zip Code: Nashville, Davidson, TN, 37203-2494

Internet E-mail Address: sunil.kripalani@vumc.org

Telephone Number: 6 1 5 – 9 3 6 – 4 8 7 5

Mobile Number: 6 1 5 – 6 3 6 – 1 2 8 5

Have other funding sources been applied for and/or granted for this proposal? ☐ Yes ☑ No

If yes, please explain/identify sources and amount.

PART II: Applicable to Certified Nursing Home Applicants

Name of the Facility: N/A

Address Line 1: _____

Address Line 2: _____

City, County, State, Zip Code: _____

Telephone Number: ☐☐☐–☐☐☐–☐☐☐☐

CMS Certification Number: ☐☐–☐☐☐☐

Medicaid Provider Number: ☐☐–☐☐☐☐

Date of Last Recertification Survey: ____ /____ /_____
MM DD YYYY

Highest Scope and Severity Determination: (A – L) _____

Date of Last Complaint Survey: ____ /____ /_____
MM DD YYYY

Highest Scope and Severity Determination: (A – L) _____

Currently Enrolled in the Special Focus Facility (SFF) Initiative? ☐ Yes ☐ No

Previously Designated as a Special Focus Facility? ☐ Yes ☐ No

Participating in a Systems Improvement Agreement? ☐ Yes ☐ No

Administrator's Name: _____

Owner of the Nursing Home: _____

CEO Telephone Number: ☐☐☐–☐☐☐–☐☐☐☐

CEO Email Address: _____

Name of the Management Company: N/A

Chain Affiliation (please specify) Name and Address of Parent Organization: N/A

Outstanding Civil Money Penalty? ☐ Yes ☐ No

Nursing Home Compare Star Rating: _____ (can be 1, 2, 3, 4 or 5 stars)

Date of Nursing Home Compare Rating: ____ /____ /_____
MM DD YYYY

Is the Nursing Home in Bankruptcy or Receivership? ☐ Yes ☐ No

If an organization is represented by various partners and stakeholders, please attach a list of the stakeholders in the appendix.

NOTE: The entity or nursing home which requests CMP funding is accountable and responsible for all CMP funds entrusted to it. If a change in ownership occurs after CMP funds are granted or during the course of the project completion, the project leader shall notify CMS and the State Agency within five calendar days. The new ownership shall be disclosed as well as information regarding how the project shall be completed. A written letter regarding the change in ownership and its impact on the CMP Grant application award shall be sent to CMS and the State Agency.

Part III: Project Category

Please place an "X" by the project category for which you are seeking CMP funding.

- [x] Direct Improvement to Quality of Care
- [ ] Resident or Family Councils
- [ ] Culture Change/Quality of Life
- [ ] Consumer Information
- [ ] Transition Preparation

[X] Training

[ ] Resident Transition due to Facility Closure or Downsizing

[ ] Other: Please specify _____

_____

Part IV: Funding Category

Please specify the amount and place an "X" by the funding category.

Amount Requested: $1,225,000

[ ] $2,500 or less	[ ] $10,001 – $25,000
[ ] $2,501 – $5,000	[ ] $25,001 – $50,000
[ ] $5,001 – $10,000	[X] Over $50,000

Part V: Proposed Period of Support

From: 01 (MM) / 01 (DD) / 2021 (YYYY) (e.g. 06/01/2010) **To:** 12 (MM) / 31 (DD) / 2022 (YYYY) (e.g. 12/01/2010)

Cynthia Bivens Cynthia Bivens Acting For

D. Clinton Brown, MBA, CRA
Director, Office of Sponsored Programs

09/09/2020
Date

Part VI: Purpose and Summary

PROJECT TITLE

Include a cover letter to the State Agency Director with the application. The cover letter should introduce your organization, explain the purpose of the project and contain a summary of your proposal. The letter should include the amount of funding that you are requesting, the population it will serve, and the need it will help solve. Make a concerted effort to bring your project to life in the cover letter and actively engage the reader.

ATTACHMENT 3
GRANT BUDGET
(BUDGET PAGE 1)

APPLICABLE PERIOD: The grant budget line-item amounts below shall be applicable only to expense incurred during the period beginning 01/01/2021 and ending 12/31/2022

POLICY 03 Object Line-item Reference	EXPENSE OBJECT LINE-ITEM CATEGORY [1] (detail schedule(s) attached as applicable)	Year 1 01/01/2021-12/30/2021 GRANT CONTRACT	Year 2 01/01/2022-12/30/2022 GRANT CONTRACT	TOTAL PROJECT
1	Salaries	$379,700.00	$293,200.00	$672,900.00
2	Benefits & Taxes	$96,900.00	$72,000.00	$168,900.00
5	Supplies	$200.00	$100.00	$300.00
10	Printing & Publications	$1,200.00	$600.00	$1,800.00
11, 12	Travel/ Conferences & Meetings	$7,100.00	$3,500.00	$10,600.00
18	Other Non-Personnel	$39,800.00	$13,200.00	$53,000.00
22	Indirect Cost *(29% TDC, to nearest 100th)*	$152,200.00	$111,000.00	$263,200.00
25	**GRAND TOTAL**	$677,100.00	$493,600.00	$1,170,700.00

1	**Salaries** - *To help control costs, we capped the budgeted salary of three team members using the federal NIH cap. Addressing COVID-19 in nursing homes necessitates multidisciplinary collaboration among experts in various fields, resulting in a majority of the costs being personnel related*
1	**Sunil Kripalani, MD, MSc - Principal Investigator** - 20% effort to lead the overall project, with responsibility for development, implementation, and evaluation of the program, including oversight of performance improvement plans, coaching, organization of the QI collaborative, data management and evaluation, and reporting.
	Victor Legner, MD, MS - Co-Investigator - 10% effort serving as one of two physician liaisons to facilities & provide education, consultation on performance improvement plans, & coaching on implementation of infection control & patient safety measures.
	Tara Horr, MD - Co-Investigator - 10% effort as one of two physician liaisons to facilities & provide education, consultation on performance improvement plans, and coaching on implementation of infection control and patient safety measures.
	Sandra Simmons, PhD - Co-Investigator - 5% effort to provide education, consultation, and coaching to facilities on nutrition support and streamlining of medications; and to assist Dr. Kripalani in running components of the QI collaborative.
	Amy Wynn, FNP - Co-Investigator - 25% effort to train and supervise the Nurse Practitioners.
	Nurse Practitioners (TBN x 2) - 100% effort for two Nurse Practicioners in Year 1 and the first 6 months of Year 2 to perform quarterly site assessments, provide direct education and support for facilities' frontline staff, and assist in tailoring protocols to fit the needs of engaged facilities, including didactic and hands-on training.
	Geriatric Pharmacist (TBN) - 20% effort to assist participating facilities with strategies to streamline medication management and medication passes to reduce opportunities for transmission of COVID-19.
	Project Coordinator (TBN) - 100% effort to assist with organizing training sessions; creating and maintaining educational materials; data collection, management, and analysis for program evaluation; and reporting.
2	**Benefits & Taxes (Total $168,900)** - Fringe benefits for the personnel are requested based on institutional rates.
5	**Supplies** - Costs for personal protective equipment (PPE) for nurse practitioners for site visits. In year 1, 150 surgical masks ($0.30/mask), 4 reusable eye shields ($4.25/shield), 25 disposable gowns ($3.63/gown), and 150 pairs of gloves ($0.10/glove). In year 2, 75 surgical masks, 2 reusable eye shields, 13 disposable gowns, and 75 pairs of gloves *(same costs per PPE as applied above)* . Total amount for PPE in Years 1 and 2, rounded to the nearest 100th, is $300.
10	**Printing & Publications** - Printing costs for on-site training materials / paper handouts at each site is requested. We estimate 3,000 handouts in Year 1, and 1,500 handouts in Year 2. Each handout cost ($0.40). The total estimate for 4,500 handouts for printing, ink, collating & stapling costs, rounded to the nearest 100th is $1,800.
11, 12	**Travel/Conferences & Meetings** - Education will be provided through a combination of virtual and on-site training. We request mileage reimbursement for two site visits to 75 facilities (total of 150 visits) in year 1 and one site visit to 75 facilities in year 2. We estimated 100 miles per round trip. 100 miles per round trip x the State of TN mileage rate of $0.47/mile x 225 trips is estimated to be $10,600, rounded to the nearest 100th.
18	***Continuing Nursing Education credits (CNEs) -*** *We will be using certain publicly available educational content to help develop our curriculum. Some of this content has associated free continuing education credits for participants, which they will receive. However, the majority of the curriculum will be based on materials which do not provide free educational credit, and will also include new curriculum content tailored to meet the needs of staff in Middle Tennessee nursing homes. We estimate each participant will complete a total of 6 hours of CNE, including 2 hours of publicly available CNE (for which there is no fee) and 4 hours of new programming (with associated CNE costs) over the 18 month project. The rate for review, approval, and awarding of credit by the VUMC Department of Nursing Education and Professional Development is $8/hour, which is discounted for this project and compares favorably with national average rates. We therefore budget $36 to provide CNE to each participant for these 4 credit hours (Year 1: $8/credit hour x 3 hours x 1,500 participants; and Year 2: $8/credit hour x 1 hour x 1,500 participants). Other costs include a one-time CNE set up fee in Year 1 ($2,500) and website/URL training module development and maintenance fees ($1,250 estimated in each year). The requested rounded total is $53,000.*
22	**Indirect Costs:** VUMC's current indirect cost rate with DHHS is at 73%. For this project we are requesting the historical indirect cost rate for State of TN projects with VUMC at 29%.

ATTACHMENT 3 (continued)

GRANT BUDGET LINE-ITEM DETAIL

(BUDGET PAGE 2)

GRANT BUDGET LINE-ITEM DETAIL - YEAR 1

SALARIES							AMOUNT
Sunil Kripalani	0.20	x	197,300	x	1		39460
Victor Legner	0.10	x	197,300	x	1		19730
Tara Horr	0.10	x	189,640	x	1		18964
Sandra Simmons	0.05	x	197,300	x	1		9865
Amy Wynn	0.25	x	99,496	x	1		24874
TBN Nurse Practicioner	1.00	x	90,450	x	1		90450
TBN Nurse Practicioner	1.00	x	90,450	x	1		90450
TBN Geriatric Pharmacist	0.20	x	135,677	x	1		27135
TBN Project Coordinator	1.00	x	58,793	x	1		58793
						ROUNDED TOTAL	$379,700.00

TRAVEL/ CONFERENCES & MEETINGS	AMOUNT
Travel costs for mileage (150 trips/100 miles per trip @ $0.47/mile)	$7,050.00
ROUNDED TOTAL	$7,100.00

OTHER NON-PERSONNEL	AMOUNT
CNE One time set-up fee ($2,500), CNE credit fees (*$8/credit hr x 3 hrs* x 1,500 participants), Website training module development & maintenance ($1,250)	$39,750.00
ROUNDED TOTAL	$39,800.00

GRANT BUDGET LINE-ITEM DETAIL - YEAR 2

SALARIES							AMOUNT
Sunil Kripalani	0.20	x	197,300	x	1		39460
Victor Legner	0.10	x	197,300	x	1		19730
Tara Horr	0.10	x	193,440	x	1		19344
Sandra Simmons	0.05	x	197,300	x	1		9865
Amy Wynn	0.25	x	101,485	x	1		25371
TBN Nurse Practicioner (100% effort for first 6 months of Year 2; 0% effort last 6 months)	0.50	x	91,800	x	1		45900
TBN Nurse Practicioner (100% effort for first 6 months of Year 2; 0% effort last 6 months)	0.50	x	91,800	x	1		45900
TBN Geriatric Pharmacist	0.20	x	138,389	x	1		27678
TBN Project Coordinator	1.00	x	59,968	x	1		59968
						ROUNDED TOTAL	$293,200.00

TRAVEL/ CONFERENCES & MEETINGS	AMOUNT
Travel costs for mileage (75 trips/100 miles per trip @ $0.47/mile)	$3,525.00
ROUNDED TOTAL	$3,500.00

OTHER NON-PERSONNEL	AMOUNT
CNE Credit fees (*$8/credit hr* x *1 hr* x 1,500 participants), Website training module development & maintenance ($1,249)	$13,249.00
ROUNDED TOTAL	$13,200.00

Key Personnel Job Descriptions

Sunil Kripalani, MD, MSc (Principal Investigator) is a Professor of Medicine in the Section of Hospital Medicine and Director of the Center for Health Services Research at Vanderbilt University Medical Center (VUMC). Dr. Kripalani will have overall responsibility for development, implementation, and evaluation of the program, including review of protocols and educational resources to ensure they adhere to current scientific evidence and best practices for communication; oversight of performance improvement plans and coaching on their implementation; organization of the quality improvement (QI) collaborative; data management and evaluation; and reporting and dissemination of results.

Victor J. Legner, MD, MS (Co-Investigator) is an Associate Professor of Medicine in the Division of Geriatrics at VUMC. Dr. Legner will serve as a physician liaison to facilities (along with Dr. Horr) and provide education, consultation on performance improvement plans, and coaching on implementation of infection control and patient safety measures (e.g., use of personal protective equipment (PPE), patient cohorting, maintenance of skin care in the setting of less frequent resident contact).

Tara B. Horr, MD (Co-Investigator) is an Assistant Professor in the Division of Geriatrics at VUMC. Dr. Horr will serve as a physician liaison to facilities (along with Dr. Legner) and provide education, consultation, and coaching on implementation of infection control and patient safety measures as noted above.

Sandra F. Simmons, PhD (Co-Investigator) is a Professor of Medicine in the Division of Geriatrics at VUMC. Dr. Simmons will provide education, consultation, and coaching to facilities on nutrition support, staffing, and streamlining of medications. She will assist Dr. Kripalani in running the QI collaborative.

Amy E. Wynn, FNP-C (Co-Investigator) will be responsible for training, deployment, and supervision of the nurse practitioner (NP) Strike Team, which will consist of two additional NPs.

Nurse Practitioners (TBN x2) *will perform quarterly facility assessments either on-site or virtually, provide direct education and support for facilities' frontline staff, and assist in tailoring protocols to fit the needs of engaged facilities, including didactic and hands-on training. NPs will be supported extensively by other team members, who will also share in performing tasks (e.g., co-investigators and pharmacist will conduct some of the staff trainings; physician investigators will help fit programming and protocols to facility needs).*

Geriatric Pharmacist (TBN) will provide guidance and assist participating nursing homes with strategies to simplify medication management (e.g., deprescribe inappropriate medications, simplify dosing) and reduce opportunities for transmission of COVID-19 while maintaining or enhancing resident health and well-being.

Program Coordinator (TBN) will be responsible for facilitating all aspects of the program including fulfillment of reporting requirements, organizing virtual and on-site visits and training sessions, assistance in creation and maintenance of educational materials, and data collection, management, and analysis for program evaluation.

We have confirmed with nursing homes that Key Personnel would be considered essential staff, which is the case for VUMC NPs currently involved in a related collaborative effort (details below). Project staff will abide by current TN Long Term Care Visitation Guidance, as well as any future guidance from the SSA. Project staff will tailor visitation to the needs of the individual nursing home and will discuss with the facility administrator prior to entering any building.

Biographical Sketches for Key Personnel (Complete CVs available upon request)

Sunil Kripalani, MD, MSc is a Professor of Medicine in the Section of Hospital Medicine at VUMC. He serves as Director of the Center for Health Services Research, Director of the Center for Clinical Quality and Implementation Research, and Co-Director of the Center for Effective Health Communication. Dr. Kripalani has expertise in developing, implementing, and evaluating interventions to improve the quality, safety, and value of health care delivery. His research focuses on transitions of care, health communication, and medication management. He has served as Principal Investigator on more than $11 million in grant funding from the National Institutes of Health (NIH), Agency for Healthcare Research and Quality (AHRQ), Centers for Medicare and Medicaid Services (CMS), and Patient Centered Outcomes Research Institute (PCORI).

- Kripalani S, Chen G, Ciampa P, Theobald C, Cao A, McBride M, Dittus RS, Speroff T. A transition care coordinator model reduces hospital readmissions and costs. *Contemp Clin Trials* 2019;81:55-61.
- Wilkins CH, Friedman EC, Churchwell AL, Slayton JM, Jones P, Pulley JM, Kripalani S. A systems approach to addressing COVID-19 health inequities. *New Engl J Med Catalyst* (in press)

Victor J. Legner, MD, MS is an Associate Professor of Medicine in the Division of Geriatrics at VUMC. He serves as a member of Shade Tree Clinic Board of Directors, Medical Director for Connected Care of Middle Tennessee ACO, and Medical Director of the Geriatric Medicine Clinic at Abe's Garden, a memory care and assisted living center in Nashville, Tennessee. As a board-certified geriatrician, he specializes in taking care of frail, older adults, particularly those with cognitive decline and dementia. Dr. Legner has served as VUMC's primary liaison with 50+ Tennessee nursing facilities to help prevent and contain COVID-19.

Tara B. Horr, MD is an Assistant Professor and Clinical Services Chief for Outpatient Services in the Division of Geriatrics at VUMC. Dr. Horr is the Chief Medical Advisor to Vanderbilt Home Care Services and is currently leading a hospital to home care coordination program at VUMC for patients diagnosed with COVID-19. She is a board-certified geriatrician and supervises clinical care of patients at Richland Place, a skilled and long-term care facility in Nashville, TN. Her areas of expertise include nonpharmacologic interventions for mild cognitive impairment and dementia, reducing geriatric caregiving strain, and palliative and end of life care.

- Horr T, Pillai JA, Messinger-Rapport BJ. What can we offer patients with mild cognitive impairment? *Cleve Clin J Med*. 2015;82(10):650-652.
- Horr T, Messinger-Rapport B, Pillai JA. Systematic review of strengths and limitations of randomized controlled trials for non-pharmacological interventions in mild cognitive impairment: focus on Alzheimer's disease. *J Nutr Health Aging*. 2015;19(2):141-153.

Sandra F. Simmons, PhD is a Professor of Medicine in the Division of Geriatrics at VUMC, where she holds the Paul V. Hamilton, M.D. Endowed Chair in Geriatrics. She serves as the Director of the Vanderbilt Center for Quality Aging and Deputy Assistant Director of Research at the Geriatric Research, Education and Clinical Center (GRECC), Tennessee Valley Healthcare System Veterans Administration. Dr. Simmons has over 20 years of expertise in nursing home QAPI efforts. She is the Principal Investigator of more than $8 million in grants from AHRQ, NIH, the VA, and National Alzheimer's Association to examine and improve quality of care and quality of life for older adults in long-term care and dementia care settings, especially in relation to staffing issues, reducing polypharmacy, and improving nutritional care.

- Hollingsworth EK, Long EA, Simmons SF. Comparison between quality of care provided by trained feeding assistants and certified nursing assistants during between-meal supplementation in long-term care settings. *J Appl Gerontol* 2018;37(11):1391-1410.
- Vasilevskis EE, Shah AS, Hollingsworth EK, Shotwell MS, Mixon AS, Bell SP, Kripalani S, Schnelle JF, Simmons SF; Shed-MEDS Team. A patient-centered deprescribing intervention for hospitalized older patients with polypharmacy: rationale and design of the Shed-MEDS randomized controlled trial. *BMC Health Serv Res* 2019;19(1):165.

Amy E. Wynn, FNP-C is a family nurse practitioner for Vanderbilt Health OnCall at VUMC and serves as the current COVID-19 NP Strike Team Coordinator. She has been in nursing for more than 10 years and has a background in infectious disease and internal medicine.

GENERAL ASSURANCES

Assurance is hereby provided that:

1. This program will be administered in accordance with all applicable statutes, regulations, program plans and applications:
   a. The laws of the State of Tennessee;
   b. Title VI of the federal Civil Rights Act of 1964;
   c. The Equal Employment Opportunity Act and the regulations issued there under by the federal government;
   d. The Americans with Disabilities Act of 1990 and the regulations issued there under by the federal government;
   e. The condition that the submitted application was independently arrived at, without collusion, under penalty of perjury; and,
   f. The condition that no amount shall be paid directly or indirectly to an employee or official of the State of Tennessee as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Agency in connection with any grant resulting from this application.
2. Each agency receiving funds under any grant resulting from this application shall use these funds only to supplement, and not to supplant federal, state and local funds that, in the absence of such funds would otherwise be spent for activities under this section.
3. The grantee will file financial reports and claims for reimbursement in accordance with procedures prescribed by the State of Tennessee Department of Health.
4. Grantees awarded grants resulting from this application process will evaluate its program periodically to assess its progress toward achieving its goals and objectives and use its evaluation results to refine, improve and strengthen its program and to refine its goals and objectives as appropriate.
5. If applicable, the program will take place in a safe and easily accessible facility.

CERTIFICATION/SIGNATURE

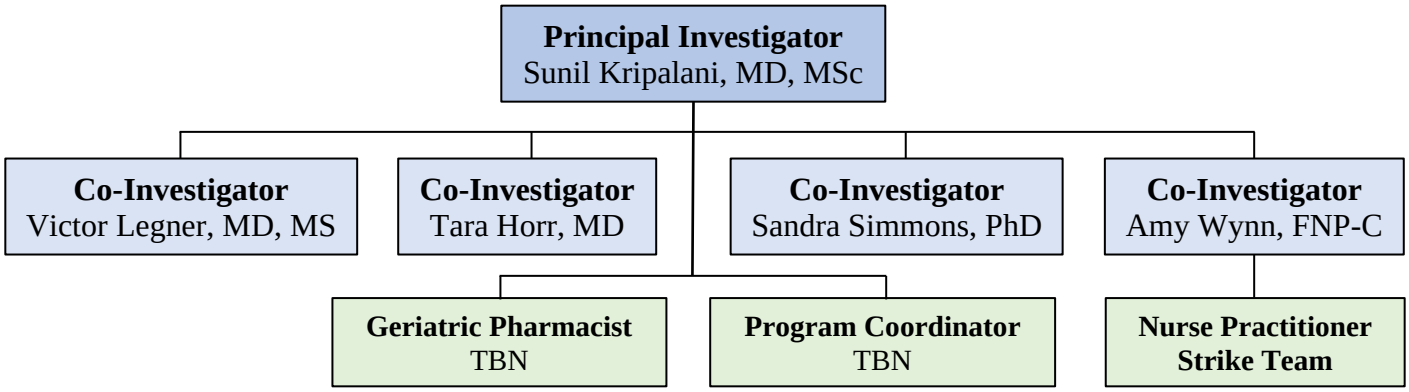
I, THE UNDERSIGNED, CERTIFY that the information contained in the application is complete and accurate to the best of my knowledge; that the necessary assurances of compliance with applicable state/federal statutes, rules and regulations will be met; and, that the indicated agency designated in this application is authorized to administer this grant.

I FURTHER CERTIFY that the assurances listed above have been satisfied and that all facts, figures and representation in this application are correct to the best of my knowledge.

Cynthia Bivens Cynthia Bivens Acting For D. Clinton Brown 9/09/2020

Signature of Applicant Agency Administrator Date Signed (Month/Day/Year)

Organizational Chart



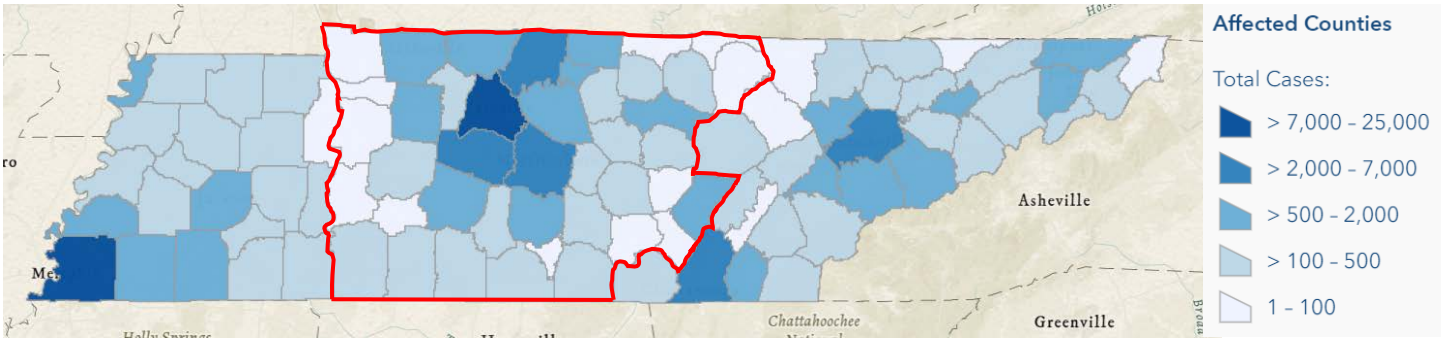
Project Title: Quality Improvement Collaborative for COVID-19 Prevention and Control in Middle Tennessee Nursing Homes

Project Abstract

Nursing home residents are particularly vulnerable to COVID-19 infection and complications; congregated living facilitates disease transmission and disease severity, and mortality increases with age and underlying medical conditions. Indeed, nursing homes have emerged as COVID-19 hot spots in the pandemic. While national guidance is available for COVID-19 prevention and control practices in nursing homes, there is an urgent need to provide support to facilities to meet their unique and evolving challenges in identifying priorities and implementing practices for infection control. The **overall goal** of the project is to assist Middle Tennessee area nursing homes with COVID-19 prevention and control through a quality collaborative with Vanderbilt University Medical Center (VUMC). The project is designed to directly benefit nursing home residents through prevention of infections, hospitalizations, morbidity, and mortality due to COVID-19 and associated conditions.

To achieve this goal, we will build on established relationships between area nursing homes and VUMC, and perform structured COVID-19 needs assessments in facilities followed by targeted education and coaching to implement quality improvement activities. This two-year project will include approximately 75 nursing homes across Middle Tennessee, including facilities in distressed or at-risk counties (Houston, Perry, Wayne, Lewis, Clay, Jackson, Fentress, White, Warren, Van Buren, Bledsoe, Grundy) and COVID-19 hot spots (> 7,000 cases: Davidson; 2,000-7,000 cases: Sumner, Rutherford, Williamson; 500-2,000 cases: Montgomery, Robertson, Wilson, Macon, Trousdale, Putnam, Dickson, Maury, Bedford, and Bledsoe; as of 7/30/20). See Figure 1, Middle Tennessee counties outlined in red.

Figure 1. COVID-19 Cases in Tennessee, by County (as of 7/30/20)



The project is designed to achieve three main **objectives**:

1) Perform quarterly assessment of facilities' infection control practices and related patient safety concerns, using an expanded version of the CDC's COVID-19 Infection Control Assessment and Response (ICAR) tool
2) Provide expertise, education, and coaching to assist nursing homes in addressing their emerging COVID-19 prevention and management concerns, led by the multidisciplinary project team
3) Support a quality improvement (QI) collaborative to facilitate sharing of best practices and problem-solving among nursing homes that are experiencing similar concerns

We will **evaluate the success** of the program through a robust set of programmatic and clinical measures:

1) Programmatic Outcomes: number of completed ICAR assessments; quarterly distribution of problem areas identified in ICAR; number of completed performance improvement plans; number, type, and focus of interventions provided; staff attendance at trainings and QI collaborative calls; participant satisfaction; use of educational materials; and challenges encountered
2) Clinical Outcomes:
    a. Primary: COVID-19 cases, acute care hospitalizations, and mortality of residents
    b. Secondary: reported patient safety and quality metrics (e.g., pressure ulcers, falls, weight loss); COVID-19 cases among health care personnel; and staffing

For clinical outcomes, we will compare event rates at participating facilities vs. non-participating facilities in the region. There are approximately 175 nursing homes in Middle Tennessee, and we *have recruited* 75 to participate. Programmatic outcomes will be evaluated among participating sites only.

This project will be conducted by a multidisciplinary team with extensive expertise in quality improvement, implementation science, COVID-19 care management, geriatrics, and other areas. The team will be led by **Sunil Kripalani, MD, MSc**, Professor of Medicine and Director of the Center for Health Services Research at VUMC. He will be responsible for the overall project and program evaluation, with assistance from the program coordinator and other team members. Dr. Kripalani has expertise in quality improvement, implementation science, care coordination, medication management, health communication, and hospital medicine. He has worked on multiple initiatives over the last 20 years to enhance quality of care in acute care and nursing homes, including having developed, implemented, and evaluated multi-site interventions to improve care coordination and medication management.

Statement of Need

The COVID-19 pandemic has been devastating to the health and well-being of long-term care residents across the United States. Nursing home residents have substantially higher morbidity and mortality from COVID-19 due to advanced age and high rates of comorbidities. As of July 21, 2020, more than 1,558 Tennessee (TN) nursing home residents and 1,522 staff members have been reported as confirmed or suspected COVID-19 cases. Tennessee has become a COVID-19 hot spot, which intensifies concern for spread of COVID-19 in area nursing homes. As nursing homes reopen to visitors and community rates of COVID-19 continue to increase, it is a critical priority at the state and federal levels for facilities to receive continuously updated, practical guidance, as well as resources and assistance to protect the health of residents and their caregivers. Facilities also need guidance to respond appropriately and proactively when a staff member tests positive, in order to limit spread among residents and staff.

To help protect nursing home residents from COVID-19, the Centers for Disease Control and Prevention (CDC) and CMS have issued national recommendations for infection control. Table 1 lists CDC Core Practices. Such guides are important, but are typically difficult to implement, particularly in facilities that lack extensive training in infection control or quality improvement. CMS has increased penalties for noncompliance with infection control measures and has deployed Quality Innovation Network - Quality Improvement Organizations (QIN-QIOs) to provide targeted assistance to facilities. However, in many areas such as Middle TN, which contains 12 distressed or at-risk counties, as well as 14 counties with a high number of COVID-19 cases (>500 as of 7/30/20), there is an urgent need for more training and support to implement infection control measures.

Table 1. CDC Core Practices for Nursing Homes
Assign program manager with infection control training
Report cases, staffing, and supply information weekly
Educate residents, personnel, and visitors about precautions
Implement source control measures
Have a plan for visitor restrictions
Create a plan to test residents & personnel for SARS-CoV-2
Screen and monitor health of personnel
Provide supplies for infection control
Identify dedicated space for residents with COVID-19
Create a plan for managing admissions and readmissions
Evaluate and manage residents with COVID-19 symptoms
Implement social distancing
Implement visitor restrictions

Care of nursing home residents inherently involves frequent, close contact between nursing staff and residents, which increases risk of disease transmission in either direction. Infection control recommendations to reduce disease transmission through physical distancing pose implementation challenges in this setting and can have unintended negative consequences on nursing home resident health and quality of life. During the pandemic, closure of common dining areas has increased the difficulty and staffing requirements needed to assist with meals, snacks, and/or other nutritional supplementation for those at risk for unintentional weight loss. Social activity programs are no longer being implemented, which increases social isolation and risk for depression, both of which are further exacerbated by family visitation restrictions. Administration of medications, which may involve multiple contacts per day, also becomes more complex and prone to error. Nursing home staffing has been strained due to lack of volunteers and family members in the facility, as well as staff being out due to illness or quarantine. As a consequence of increased resident isolation and other COVID-related challenges, there is concern for an increase in dehydration, weight loss, falls, and depressive symptoms, as well as a decrease in incontinence care, bathing, and repositioning for pressure ulcer prevention. Ultimately, working with facilities to improve infection control practices during the COVID-19 pandemic could improve quality of care for nursing home residents along multiple dimensions.

Addressing Barriers to Implementation

We recognize there are several potential barriers to implementation and have made plans to address them (Table 2). Regular communication between project team members, nursing homes, and other stakeholders has been established and will be utilized to convey any adaptations to the proposed project. The project team will keep CMS and the Tennessee Department of Health (TDH) Office of Patient Care Advocacy aware of any progress barriers through quarterly reports and regular communication via email, telephone, or other preferred method.

Table 2. Potential Barriers to Implementation and Strategies to Address Them	
Barrier	**Strategies and Measures to Minimize/Mitigate Barriers**
Lack of interest in participation – too many competing priorities for staff	Project staff members will work alongside nursing homes to ensure educational opportunities are provided on their time and terms. Adaptations for educational delivery can be made throughout the project, and the project team will remain flexible to meet the needs of staff. Continuing education credit will be provided.
Overlapping with other arising national or state-level initiatives to address COVID-19	The project team will work alongside nursing home staff, TDH staff, the QIN-QIO (see letter), and other stakeholders regularly throughout this project. **Any nursing home participating in the QIN-QIO work must build upon their previously established goals if participating**. Should an overlapping initiative arise, VUMC will identify the duplication and coordinate with relevant stakeholders to shift efforts and enhance available resources. All project members will be informed of changes to scope, and TDH will be informed and/or involved in critical decision-making.
Staff turnover (new or temporary staff)	In addition to having enduring educational materials that can be shared, virtual (e.g., recorded training videos) and onsite opportunities (e.g., via a train the trainer model) will be available for new or temporary staff, or staff who need refresher training.
Night and weekend staff	Educational materials and virtual training (e.g., recorded videos) will be available for staff who may be unable to participate in weekday trainings.
Dropout in participation over time	Specific project team members will serve a primary contact for each participating facility to foster retention and will follow-up with disengaged facilities to see if they need assistance or accommodation. Reasons for dropout will be documented and reviewed regularly. Program enhancements may be made to help with retention.

Program Description

Preliminary work and recruitment of facilities

The proposed program builds on our team's preliminary work with area nursing homes to provide consultation on COVID-19 infection control procedures. Since the beginning of the pandemic in TN, VUMC has helped selected facilities in the metro Nashville area with cases of COVID-19 control outbreaks by providing targeted instruction on the appropriate use of PPE, cohorting, and other infection control methods. *VUMC has recently started* a three-month initiative to conduct a more complete assessment of facilities' infection control practices across Middle TN, using an expanded version of the CDC's COVID-19 Infection Control Assessment and Response (ICAR) tool, providing targeted education in areas of need, and performing follow-up checks one week and one month later. This work is being funded by a short-term contract from TDH and is scheduled to be completed by *December* 2020. A "Strike Team" of nurse practitioners has been hired and trained by VUMC to perform the assessments and education. *Initial visits are being done in person, with VUMC NPs considered essential staff per current TN Long Term Care Visitation Guidance.* The team is supervised by Amy Wynn, FNP-C, and supported by Dr. Legner (both members of the project team).

Recruitment of sites for this initial assessment *began on September 1 and continued into December 2020, with site visits being performed within a few days after recruitment*. We *have reached* out by phone to the approximately 175 nursing homes in Middle TN *and their corporate headquarters*, inviting them to participate in the short-term initiative described above, as well as determine their interest in the more comprehensive work proposed in this application, which would start in January 2021 and leverage the initial assessments. *Priority for recruitment is being given to facilities with a higher number of cases among residents and staff, or 1- or 2-star rating per Medicare.gov Nursing Home Compare. Thus far (as of January 7, 2021), 75 nursing homes have confirmed their interest in participating. A Google drive folder with documentation of interest is located here.*

There are three main objectives to the proposed project:

1) Perform quarterly assessment of facilities' infection control practices and related patient safety concerns, using an expanded version of the ICAR
2) Provide expertise, education, and coaching to assist nursing homes in addressing their emerging COVID-19 prevention and management concerns, led by the multidisciplinary project team
3) Support a QI collaborative to facilitate sharing of best practices and problem-solving among nursing homes that are experiencing similar concerns

1. Quarterly ICAR Assessment

The ICAR was developed to help nursing homes prepare for COVID-19, identify gaps in care processes, and guide their response. Topics include visitor restriction; education, monitoring, and screening of residents and personnel; PPE and other supplies; infection control practices (e.g., hygiene, cohorting); and health department communication. Based on our discussions with experts and facilities, as well as recent recommendations on streamlining/deprescribing medications to reduce passes, we have added items to the ICAR related to vendor access, meal preparation and transport, nutrition support and feeding assistance, and medication administration. As noted above, a VUMC NP Strike Team is administering the expanded ICAR to nursing homes in *September and October* 2020 to identify current practices and gaps, in order to guide initial education.

As the pandemic continues into 2021, the concerns and needs of nursing homes will evolve, making it important to maintain a process for assessment and assistance. Some issues may only become known when they arise. For example, challenges in cohorting residents may only be recognized when a resident is diagnosed with COVID-19, or when a resident in memory care wanders and breaks the intended boundaries. **In the proposed project, the Strike Team will reassess facilities quarterly to identify emerging needs and ongoing opportunities for improvement.** They will also assess other unintended consequences from COVID-19 control efforts, such as social isolation, decreased nutrition support leading to weight loss, pressure ulcers, and falls. These assessments will serve as a foundation for providing ongoing structured education and coaching on prevention, containment, and mitigation measures in nursing homes (described below). *All initial assessments are being performed on-site. Quarterly reassessments will be performed virtually when possible to enhance feasibility and reduce data collection burden, though we will favor on-site reassessment if the facility has experienced a significant change in cases, staffing, or procedures since the previous assessment.*

2. Assistance in Addressing COVID-19 Concerns

The project team (primarily Drs. Kripalani, Legner, and Horr, with input from the NPs) will assist each nursing home in developing a **performance improvement plan tailored to the identified needs in each facility**. Each plan will be developed within five days of the assessment and will be updated after each quarterly reassessment. Plans will be shared with the nursing home and TDH personnel.

The action plans will focus on up to 3 areas of greatest concern identified in the expanded ICAR and include specific recommended interventions. To support action plans, we will provide on-site or virtual training in 1-2 hour sessions, with continuing education credit. Our preliminary discussions with nursing homes have identified common training needs (Table 3). We plan to use educational materials developed by the CDC and CMS for infection control (maintained online by Alliant Quality); by the US Deprescribing Network for simplifying medication regimens; and by our

Table 3. Common topics for training
Use of PPE for specific care activities, donning/doffing
Source control (masking) for residents
Hand hygiene
Environmental cleaning of high-contact surfaces
Use of cohorting, quarantining, and full-facility isolation
Limiting/stopping visitation and group activities/dining
Streamlining medication regimens to reduce passes
Continuing adequate nutritional assistance

team for feeding assistance and other aspects of nursing home care. Virtual and in-person booster trainings will be available every six months to assist facilities that may need a refresher or experience staff turnover. *Training will be delivered by all team members as appropriate to their expertise. Hands-on technical assistance will be incorporated into training. For example, NPs will demonstrate appropriate donning/doffing of PPE and provide direct feedback to staff on their technique. Physician co-investigators can review the facility floor plan and help develop specific procedures and locations for cohorting and quarantining patients. The team's nutrition expert, Dr. Simmons, can help the facility develop specific plans to ensure adequate feeding assistance, taking into account infection control procedures and fluctuations in staffing. The team's geriatric pharmacist can help facilities implement a structured process to streamline medication regimens by reviewing potentially inappropriate medications that should be flagged for deprescribing, simplifying dosing schedules to limit medication passes, and shifting from aerosolizing nebulizers (which could facilitate viral spread) to metered dose inhalers when appropriate.*

Importantly, **we will also provide coaching to assist with overcoming barriers** as facilities strive to implement the recommendations. Members of the team have substantial experience in implementing QI interventions and have previously coached hospitals, post-acute care, and long-term care facilities through QI implementations. For continuity, one of the two NPs plus either Dr. Legner or Dr. Horr (both geriatricians with extensive nursing home experience) will be assigned to each facility, so each person will work with 35-40 facilities. *Dr. Kripalani will provide technical assistance to all the sites on relevant QI methods* (e.g., A-3 worksheet, Fishbone diagram, SMART goals, PDSA cycles) and serve as physician back-up. Dr. Simmons will provide expertise in nutrition support, medication management, staffing, and QI. Follow-up meetings will be conducted quarterly, and additionally as needed, to assist each facility in progressing toward their objectives.

3. Quality Improvement Collaborative

In addition, participating nursing homes across the Middle TN region will be connected through a COVID-19 QI collaborative. The collaborative will hold **moderated monthly calls** in which facilities share their approaches to addressing common problems and barriers, as well as assist each other in problem-solving. Prior to each call, the VUMC project team will distribute brief updates including any changes in guidelines, and trends in regional data; these will also be reviewed briefly during the call. These calls will also discuss patient safety concerns (e.g., falls, pressure ulcers), advanced topics such as transitions of care (e.g., procedures for return to facility after hospitalization), and long-term effects of COVID-19 infection (e.g., persistent dyspnea, physical deconditioning, cognitive impairment) with nationally and internationally recognized experts from VUMC, who we will schedule to present. We will assess whether smaller group calls are preferred, with facilities grouped by county, size, similar challenges, or other factors such as ownership, with involvement of corporate leaders in policy/practice decisions. These calls will help foster communication across facilities, and may pave the way for longer-term collaboration to enhance QI capabilities.

Results Measurement and Program Evaluation

The success of the program will be assessed through the achievement of program objectives and clinical outcomes. The three primary objectives of the project, as described above, are to 1) perform quarterly assessments using the expanded ICAR; 2) provide expertise, education, and coaching to assist nursing homes in performance improvement; and 3) support a QI collaborative that shares best practices. **Programmatic outcomes** related to these objectives are listed in Table 4.

The **primary clinical outcomes** are COVID-19 cases, acute hospitalizations, and mortality of nursing home residents. **Secondary outcomes** include COVID-19 cases among nursing home staff, staffing shortages (hours per resident per day), and reported patient safety and quality metrics that may be affected by isolation and therefore serve as balancing measures (e.g., falls, pressure ulcers, depressive symptoms, weight loss) (Table 4).

Data will be collected and stored in a secure REDCap database, housed at VUMC. The Project Coordinator is responsible for data quality checks, analyses, and summaries, under the direction of the Principal Investigator

(Dr. Kripalani). For each of the outcomes in Table 4, we will evaluate data overall, separately for distressed or at-risk counties, and by individual facility. Data summaries, including frequencies and trends, will be updated monthly throughout the project and shared with individual facilities during coaching, so they can compare their performance with the overall group and with like facilities (e.g., same county, similar size). De-identified aggregate data will also be shared during the monthly QI collaborative calls, and trends discussed.

To assess the effect of the program on primary and secondary clinical outcomes, we will compare event rates at participating facilities (N~75) vs. non-participating facilities (N~100) in the region. Multivariable analyses will control for potential confounding factors such as facility size, star rating, and rate of COVID-19 in the county.

Interim **progress reports** will be submitted every six months, and a final report upon project completion (Table 5). Reports will include the measures and summaries described here. In addition, we will include notes from QI collaborative calls, with discussion of what practices and problem-solving strategies were shared among staff at participating facilities. The final report will also include a summary of overall program impact and lessons learned, as well as results from a survey of participants about their satisfaction and reflections on the program.

Table 4. Outcome Measures for Project Evaluation

Programmatic Measures	**Source**	**Responsibility for Data Collection**	**Timing**
Number of completed ICARs	Expanded ICAR	NP, designated facility contact	Quarterly
Frequency of problem areas identified in ICAR	Expanded ICAR	NP, designated facility contact	Quarterly
Number of completed performance improvement plans	Project team	Project Coordinator	Quarterly, within 5 days after ICAR
Number, type, and focus of interventions provided (educational materials, training, coaching sessions)	Project team	NP, Project Coordinator	Monthly
Staff attendance at trainings and QI collaborative calls	Attendance roster	Training facilitator, Project Coordinator	Monthly
Satisfaction with program, challenges encountered, use of educational content, recommendations	Anonymous survey administered via REDCap	Project Coordinator	Project completion
Clinical Measures	**Source**	**Responsibility for Data Collection**	**Timing**
COVID-19 cases, hospitalizations, and deaths among patients	TDH, facility report	Project Coordinator	Monthly
COVID-19 cases among staff	TDH, facility report	Project Coordinator	Monthly
MDS Quality Measures (e.g., falls, pressure ulcers, depressive symptoms, weight loss, readmissions); staff hours	CMS Nursing Home Compare Database	Project Coordinator	Quarterly (information lags behind 1 quarter)

Table 5. Project Timeline for Benchmarks and Deliverables									
	Pre-award	Year 1				Year 2			
Activity		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Identify participating facilities									
Assessments with expanded ICAR tool (quarterly)									
Develop facility performance improvement plans									
Provide educational materials and training									
Coaching to assist with program implementation									
QI collaborative calls (monthly)									
Data collection: primary / secondary outcomes									
Data collection: programmatic outcomes									
Program evaluation									
Dissemination of results and best practices									
Progress reports									

Benefits to Nursing Home Residents

Even before the COVID-19 pandemic, infection-related citations have consistently ranked as the most frequently cited deficiencies in TN nursing homes. Now more than ever, it is critical to support and enhance infection control programs to prevent avoidable morbidity and mortality. If the project is effective, residents will directly benefit through prevention of infections, hospitalizations, and mortality due to COVID-19 as well as other communicable diseases. Other aspects of care also stand to benefit. By being attentive to patient safety issues that might inadvertently worsen in the setting of increased resident isolation, the project may also help reduce harm from falls and pressure ulcers. Attention to food service processes while maintaining adequate nutrition support will reduce the risk of weight loss. Streamlining medication management will achieve sustained reductions in administration times and reduce direct resident-staff contact without compromising goals of care, and may also reduce adverse drug events. The program may also reduce infections, illness, and absenteeism among staff, who would then be more available to tend to resident needs and well-being.

Consumer/Stakeholder Involvement

Nurse Practitioners on the Strike Team are actively engaging direct care staff members through virtual and in-person educational opportunities. The nursing home governing bodies will receive ICAR assessment data and be invited to participate in developing and endorsing performance improvement plans, so they can help protect staff time for training and incorporate interventions into workflow. Staff members will be assessed on a quarterly basis to determine uptake of infection control practices within participating facilities and challenges to success. Nursing home residents and their families at each facility will be invited to engage in educational opportunities, and feedback will be obtained to identify opportunities for continuous quality improvement. This will be accomplished through existing facility outreach practices (e.g., newsletters, routine care team planning meetings) and/or via the resident and family councils already in place. Visitor and resident-specific materials will be distributed, addressing on commonly asked questions and best practices to prevent spread. Other stakeholders, such as the QIN-QIO, have been informed of and are supportive of our efforts. They will be kept informed of project progress, share materials, and disseminate final products to any relevant members.

Financial Feasibility and Sustainability

Please see attached detailed budget. We request a total of $1,225,000 over a two-year period. *To help control costs, we capped the budgeted salary of three team members using the federal NIH cap. We also used the lower 29% indirect rate for VUMC with the State of TN, rather than VUMC's current federal indirect rate of 73%.* Some educational resources and dissemination of materials resulting from this project will be provided by

Alliant Quality, our region's QIN-QIO, at no cost to the project. (See Letter of Support.) *The complexity of addressing COVID-19 in nursing homes necessitates multidisciplinary collaboration among experts in the fields of gerontology, QI, and infection prevention, ultimately resulting in a majority of the costs being related to personnel. However, staff time will be dedicated to providing one-on-one assistance and developing resources for nursing homes involved in the program, resulting in long-lasting benefits for nursing homes involved.* To enhance sustainability, we will archive educational materials, training videos, and other QI resources, and make them freely available after the project ends. Nursing home staff will also acquire enduring skills in QI through coaching and the QI collaborative, which can be applied to future initiatives in infection control and other areas.

Involved Organizations

1. **VUMC** (Address: 3319 West End Avenue, Suite 970, Nashville, TN 37203; Contact: Mr. D. Clinton Brown; email: sponsoredprograms@vumc.org; phone: 615-870-6070) will be the primary site for administering the project. VUMC will support the project team with office space, computer equipment, database and website hosting, administrative support, phone, video conferencing software, and the institutional review board.
2. **Alliant Quality** (Address: 1455 Lincoln Pkwy, Suite 800, Atlanta, GA 30346; Contact: Mrs. Linda Kluge; email: linda.kluge@alliantquality.org; phone: 678-527-3675) will support the project as the regional QIN-QIO. See Letter of Support.

We have successfully recruited 75 nursing homes in Middle TN and nearby areas, either directly or through their corporate offices. Of these, 30 are 1-star or 2-star facilities. A Google drive folder with documentation of interest is located here.

Innovation and Replicability

This project will use the latest evidence-based recommendations to guide nursing homes in their response to COVID-19. We will utilize the CDC's ICAR survey, to which we have added domains based on additional evidence and expert guidance. Educational materials will be sourced from CMS, the CDC, and the QIN-QIO, and supplemented with training materials developed by our project team and other experts at VUMC who are nationally and internationally known for their expertise in infection control, geriatric medicine, cognitive impairment, medication safety, nutrition support, and transitions of care.

To enhance dissemination and replicability, educational materials and training videos will be publicly available on the *program website as well as* training/resources pages of VUMC websites including the Center for Quality Aging and the Center for Clinical Quality and Implementation Research. We will also develop and post a brief guide of best practices for implementation of similar interventions in a long-term care environment. We will regularly provide project information for dissemination in the bi-monthly newsletter distributed to nursing home stakeholders by the Tennessee Office of Patient Care Advocacy. Regular progress reports will be shared with the Office of Patient Care Advocacy, Office of Healthcare Facilities, Alliant Quality QIN-QIO, and CMS. The team will disseminate results widely via a final report to all participating facilities and stakeholders as well as presentations to relevant nursing home organizations and agencies.

Focus Areas

The outlined proposal directly targets four out of the five TN CMP funding focus areas: implementation of strategies to reduce healthcare-associated infections (HAIs) among nursing home residents; implementation of strategies to improve quality of care and/or quality of life of nursing home residents living in Tennessee's distressed and at-risk counties; reduction of avoidable hospital readmissions among nursing home facility residents; and improvements of nursing home facilities' CMS star rating.

July 30, 2020

Dear Members of the CMP Grant Review Committee:

I am delighted to provide this letter of support for the Vanderbilt University Medical Center (VUMC) proposal titled, *"Quality Improvement Collaborative for COVID-19 Prevention and Control in Middle Tennessee Nursing Homes."* In a call with Dr. Kripalani we learned that this is planned to address a critically important and timely topic, and will directly benefit the health of nursing home residents. The multidisciplinary team that he leads will carry out this work, bringing expertise in geriatric medicine, nursing home care, quality improvement, implementation science, and evaluation.

Alliant Quality is the Medicare Quality Improvement Network – Quality Improvement Organization (QIN-QIO) for seven states in the Southeast, including Tennessee. We engage virtually with the recruited nursing homes in our region, provide additional support to some homes with targeted Quality Improvement Interventions (QIIs) as directed by CMS and convene community coalitions in the state. The targeted QIIs provide focused assistance in implementing basic infection control practices such as hand hygiene and use of personal protective equipment and tracks improvement of their action plan for a few months to determine if the QII has been successful in preventing future issues in survey findings.

In reviewing this project proposed by Dr. Kripalani and colleagues we noted that this will go beyond the current QIN-QIO work in many ways that are outlined in the application. Among them are:

1) Serial assessments over a period of 18 months to identify continued and emerging challenges to prevent infection control issues in the future with the recruited homes for the project
2) Local hands-on / onsite coaching to address challenges and foster sustainment of improvements
3) Attention to potential unintended consequences of isolation practices
4) Education that will cover advanced issues such as transitions of care (e.g., accepting patients back after an acute care hospitalization) and long-term debility due to COVID-19 (e.g., persistent dyspnea, cognitive impairment)
5) Evaluation of program effects on clinical outcomes including patient safety indicators, hospitalizations, readmissions and mortality

The anticipated recruitment of 75 facilities, from an available pool of approximately 175, seems to be reasonable. Alliant Quality looks forward to supporting this important project by promoting the project, sharing of educational materials, facilitating access to statewide quality data, and helping to disseminate training materials and results from this project.

We believe the proposed project will benefit a large number of nursing home residents in Middle Tennessee, including residents in 1-star and 2-star facilities and rural and vulnerable counties. Therefore, we enthusiastically support the proposed project and look forward to partnering with the project team to help ensure its success.

Sincerely,

Linda Kluge, RD LD CPHQ
Executive Director, IDIQ
Alliant Health Solutions