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Specific Discipline: Division of Geriatric Medicine and Palliative Care, Department of Family and Community Medicine, Sidney Kimmel Medical College, Thomas Jefferson University

Project Title: The Complex Care Curriculum (The 3Cs): Navigating Social Determinants of Health in Geriatric Practice

II. PROJECT NARRATIVE

PURPOSE AND NEED

Medical hotspotting, an evidence-based, patient-centered, and multifaceted complex care management program, was born out of a recognition that the United States health-care system fails our most vulnerable populations. While the science of complex care management is still in its infancy, the literature unequivocally demonstrates that the total cost of care is driven primarily by 5% of the population. These *superutilizers* are high-need/high-cost and present with layered physical, behavior, and social needs that are unmet in our fragmented health care system.¹ Frequently, these individuals provide textbook examples of the impact of inequitable social determinants of health (SDoH); food insecurity, lack of adequate housing or transportation, low educational attainment, the threat of interpersonal violence, and social isolation. One approach to addressing complex health needs and SDoH calls upon collaborative teams of health professionals “hotspotters” who engage with patients exhibiting high (and frequently ineffective) service utilization. Anecdotal and small-scale studies evaluating the impact of hotspotting have demonstrated improved patient outcomes (reduced hospitalizations, improved quality-of-life) and health-care dollar savings (reduction of super-utilizers average monthly charges from \$6,039 to \$2,633 per patient per month).^{2,3} As a practice, hotspotting works to identify *superutilizers*, prepare targeted interventions, reshape ineffective utilization patterns (on the part of provider and patient alike), improve patient outcomes, and reduce health care costs. Very few academic health centers have implemented the hotspotting approach and there is minimal data evaluating efficacy and impact on students and patients alike.¹

As an institution providing care for a large group of vulnerable (underserved) individuals, and located in the heart of Philadelphia (the poorest of America’s largest cities with well documented, dramatic health disparities based on zip code) Thomas Jefferson University (TJU) maintains a clear commitment to serve as a leader in academic hotspotting. As one of ten teams selected from across the country to pilot the program, Jefferson’s Interprofessional Student Hotspotting Learning Collaborative was established in 2014. The program continued to grow in scale and was awarded a Robert Wood Johnson sub-grant in 2017, recognizing the institution as one of four national hotspotting hubs. During this 2018-2019 academic year, TJU is supporting 8 internal teams and 12 regional teams at institutions like Harvard, Penn, Columbia, Yale, and Johns Hopkins.

¹ Matsumoto AN, Pardee M, Casida J. Application of Hotspotting in Acute Care Settings. AACN Adv Crit Care. 2018 Winter;29(4):444-448

² Jones AC, Li T, Zomorodi M, Broadhurst R, Weil AB. Straddling care and education: Developing interprofessional collaboration through a hotspotting service learning project. Healthc (Amst). 2018 Jun;6(2):108-10

³ Green Sr, Singh V, O’Byrne W. Hope for New Jersey’s City Hospitals: The Camden Initiative. Perspect Health Inf Manag. 2010 Apr 1;7:1d

Student hotspotting at Thomas Jefferson University is an educational curriculum and community-based coordination model originally developed by the Camden Coalition of Healthcare Providers (CCHP). The program pulls together teams of interprofessional students who work together over the course of an academic year to identify and support selected *superutilizers*. Participating students are responsible for enrolling patients into the hotspotting program, attending skills workshops, completing a general hotspotting curriculum, organizing team meetings, and initiating frequent patient interactions. Patient interactions include home visits, advocacy at medical appointments and ER evaluations, coordination of health care services in the community, identification of social/medical/environmental barriers to care, and equipping patients with the tools to navigate health care systems. There has been an existing hotspotting curriculum, which includes kick-off and wrap-up events, an online video curriculum, monthly skill workshops, and monthly case presentations. Upon completion of the program, students receive a transcription notation of “Excellence in Collaborative Practice.”

Assessments of SDoH in Philadelphia demonstrate a clear need for innovative public health initiatives such as hotspotting. The 2015 County Health Rankings for Pennsylvania ranked Philadelphia County last of all 67 counties in the state for social and economic factors and the Community Need Index (a tool that identifies the severity of health disparities for every zip code in the United States) ranked Philadelphia as among the top 10 cities with the highest need. Of the 26 largest cities in the United States, Philadelphia has one of the highest percentages of people living in poverty and deep poverty.⁴

Yet, for all of the work that hotspotting does to proactively serve and protect vulnerable populations, the oldest of old has been excluded from the program. As geriatricians, we recognize that older adults are exquisitely vulnerable to poor outcomes in the context of chronic disease and multimorbidity, the prevalence of geriatric syndromes, and the implications of SDoH inequities. Within this framework, it is difficult to understand how success could be within reach when so many of patients are profoundly disconnected from crucial resources. An assessment of *superutilizer* prevalence in the state of Pennsylvania identified age (greater than 75 years) as the single highest risk characteristic, followed by race, and residence in high poverty regions. The “*Jefferson University Hospital’s Community Health Needs Assessment 2016*” looked at key determinants of health (economic stability, education, social and community context, and health and health care access) to identify specific obstacles for aging patients served by Jefferson. This demographic sector was identified as being more likely to have been told they had a substance abuse problem, have undertreated mental health issues, exhibit decreased physical activity, exhibit higher rates of food insecurity, and have difficulty managing housing costs. Poverty rates vary by neighborhood but, on average, 18% of older adults live below 100% of the Federal Poverty Level and 46% live below 200% of the poverty level within the Thomas Jefferson University Hospital catchment.⁵ Although SDoH are increasingly acknowledged as elemental in patient outcomes and overall health, a review of the medical literature suggest that no medical or interprofessional education programs have focused on understanding their impact specifically on

⁴ Jefferson University Hospitals Community Health Needs Assessment, 2016.
<https://hospitals.jefferson.edu/about-us/in-the-community/community-health-needs-assessment.html>

older adults and aging populations, and particularly, on older adults who are superutilizers. Embedding geriatric principles into a hotspotting curriculum would augment health professional competency in delivering geriatric care, hone collaborative practice skills, increase recruitment of geriatric specialists, and offer a model of care that broadens provider and patient roles to achieve greater flexibility and outcomes.

While concerns about the growing shortage of geriatricians to serve a rapidly aging population abound in medical literature, this project recognizes the importance of ensuring that every clinician and healthcare professional caring for older adults is competent in geriatric principles and cognizant of the impact of SDoH inequities. Geriatricians are uniquely positioned to provide leadership input hotspotting programs because of our training in team-based care, our holistic approach to managing health, our understanding of various settings of care and how they can be used to meet the needs of patients, a clinical focus that emphasizes functional status (and understands the diversity of impediments to independence), and our comfort level with complexity, accepting ambiguity, and shared decision making.

GACA Purpose/Objectives

My long-term career goal is to become an independent academic geriatrician, recognized nationally as an expert in developing and evaluating interprofessional complex care curricula addressing the intersection of complex patients and populations, interprofessional teams, and complex healthcare system. In order to achieve career trajectory, I have designed a **Career Development Plan** with four specific goals:

1. *Perform a **needs assessment(s)** of student knowledge/biases regarding the impact of aging on social determinants of health inequities in the context of hotspotting.*
2. *Create and facilitate (**precept**) a **distinct geriatric hotspotting clinical tract**, housed within the Jefferson Geriatrics outpatient practice at TJU.*
3. *Build and **disseminate a geriatrics complex care curriculum** encompassing the 4 Ms (What **M**atters, **M**obility, **M**edications, and **M**entation) that (i) engages hotspotters to maximize the impact of interventions addressing social determinants of health and (ii) promotes collaboration among various healthcare providers.*
4. *Develop skills and expertise needed to **become a leader in interdisciplinary geriatric education** in an effort to ultimately leave a national impact on the care of older adults.*

Project Director Background / Career and Leadership Goals

I entered the field of medicine through a somewhat unconventional route. During college, I interned with the Public Defenders Office in the District of Columbia. The experience was transformative, exposing me to glaring deficiencies in underserved neighborhoods and providing a glimpse of the sequelae of racism, sexism, classism, ableism, and ageism in judicial courtrooms. As a legislative correspondent on Capitol Hill in subsequent years, I recognized a deeply rooted internal need to work with individuals (not policies) and a desire to impact disparities linked to health access and outcomes. I subsequently matriculated to Temple University for medical school and TJU for my residency in Family Medicine and a fellowship in Geriatric Medicine. I was deeply committed to serving underserved populations and chose my training programs because of the populations served. Similarly, I was drawn to the practice of geriatrics because of the complexity and vulnerability experienced by this segment of society.

Since graduating from my Geriatrics Fellowship in 2011, my **professional commitments** have been split among providing high quality clinical care to underserved elders, creating geriatric curricula to a broad range of learners, and incrementally seeking out and assuming leadership

positions within TJU. More than 75 percent of my time is currently spent treating geriatric patients in a variety of settings, including an outpatient primary care geriatric practice, inpatient geriatric consultation service, and an interprofessional geriatric oncology practice. I provide clinical teaching in all of these venues to students from multiple disciplines and serve as a formal preceptor for our geriatric fellows. In recognition of my commitment to teaching, I received in the Dean's Award for Excellence in Education this past year. I was awarded the James Erdmann PhD Award for Excellence in Interprofessional Collaborative Practice in 2016 out of recognition of my work in interdisciplinary medicine.

My interest in **geriatric curriculum development and dissemination** has been a dominant force throughout my medical career. Completing the mini-fellowship in Graduate Medical Education in Geriatrics at Duke University School of Medicine in 2014 was a crucial first step in increasing competency in developing and evaluating curricula. Three years ago, I created a geriatrics curriculum for a cohort of students from St. George's University of London (SGUL), who matriculated at Jefferson for their clinical rotations. These students were required to engage in a geriatric curriculum that was equivalent to the British standard. I created a comprehensive geriatrics curriculum (>25 hours annually), which included administration of 11 distinct lectures on core geriatric topics and small-group discussions on 9 related topics. I have served as an ongoing mentor to ~30 SGUL medical students over the course of three years. As the Assistant Fellowship Director, I have also worked to enhance the longitudinal learning experiences of our geriatric fellows and served as a career mentor to current and graduated learners.

I have been deeply involved in **interprofessional teaching** over the course of the past seven years. I currently serve as the Medical Director for Jefferson's Physician Assistant Program. In this role, I provide clinical lectures, supervise didactic instruction / clinical practice experiences, provide program and curriculum guidance to the faculty, and assist with student recruitment and retention. In support of my interest in interprofessional practice and education, I have successfully completed additional relevant graduate level coursework in topics related to interprofessional education and geriatrics (IPE 765: Interprofessional Healthcare Education and IPE 766: Interprofessional Topics in Geriatric Healthcare Practice).

In collaborating with geriatricians at the University of Rochester and Florida Atlantic University, I have developed a **research** project assessing the status of geriatric education in family medicine clerkships. We authored a CAFM Educational Research Alliance (CERA) "Clerkship Director Survey," which was distributed nationally to Family Medicine clerkship directors. This survey provided raw data highlighting obstacles and deficiencies in geriatric training. The data has resulted in an AGS poster submission and is currently being prepared for publication submission. I served as a co-investigator on a HRSA residency training grant for residents at a clinic providing low-cost primary care to Latino immigrant communities and as a co-investigator in a research project aiming to reduce racial health disparities for African Americans with diabetes by collaborating with community-based organizations.

I have been actively involved in scholarly writing throughout my tenure. **Relevant scholarly products** include the following articles: Health Literacy in Primary Care Practice, Strategies to Help Reduce Hospital Readmissions, Polypharmacy in the Geriatric Oncology Population, Clinical Management of Urinary Incontinence. Poster presentations include: *Interprofessional Geriatric Clinical Skills Fair*. Conference presentations include a roundtable discussion: *Using Electronic Knowledge Based Resources to Teach the Millennial Learner About Caring for*

Older Adults. I also served as a Co-Chair of the Peer Review Committee for *Reichel's Care of the Elderly: Clinical Aspects of Aging, 7th Edition*.

Over the course of the last seven years, I have actively engaged in curriculum development, interprofessional education, and research. My diverse range of skills and my affiliation with an institution that supports interprofessional collaboration and innovation place me in a position to maximally benefit from receipt of a GACA. The lack of substantive didactic and clinical geriatric training across Jefferson University underscores the need for innovative curriculum building and increased clinical exposure. Our training programs reflect a national phenomenon. Through the GACA, I aim to synthesize best practices in complex care delivery and create an integrated complex care curriculum that systemically transfers critical knowledge and skillsets to the next generation of care teams. This program broadens the traditional hotspotting training framework to address issues related the interplay of aging SDoH (care access, lack of social supports, mental health disease, drug use, homelessness, etc.). I bring enthusiasm and conviction to clinical teaching of geriatric medicine and I have found my passion in innovative educational experiences that maximize outcomes for vulnerable, urban, aging populations. Of equal importance, the GACA would provide dedicated time and resources to engage with geriatric and education leaders on a national stage, disseminate research findings, and further establish my role as a leader and innovator in interprofessional education. Meeting the goals set forth in this application represents an institutional and individual commitment.

RESPONSE TO PROGRAM PURPOSE

a) WORK PLAN

Please see Table 1 (below) for an overview of my Longitudinal Career Development Plan (CDP).

Table 1. Longitudinal Career Development Plan

Objective	YEAR ONE (2019-2020)	YEAR TWO (2020-2021)	YEAR THREE (2021-2022)	YEAR FOUR (2022-2023)
Needs assessment	<ul style="list-style-type: none"> • Acquire skill set to develop needs assessment • Connect with SDoH community experts • Develop and implement needs assessment for target group • Analyze data 			
Develop Clinical Geriatric Hotspotting Tract	<ul style="list-style-type: none"> • Serve as general hotspotter faculty advisor • Develop and implement recruitment plan for geriatric hotspotting tract 	<ul style="list-style-type: none"> • Serve as geriatric hotspotter faculty advisor • Obtain student feedback on geriatric hotspotting tract and refine program experience 	<ul style="list-style-type: none"> • Serve as geriatric hotspotter faculty advisor • Analyze, integrate, and disseminate student/patient outcomes • Develop geriatric consultant role to <i>entire cohort of</i> student hotspotting teams 	<ul style="list-style-type: none"> • Serve as geriatric hotspotter faculty advisor • Analyze, integrate, and disseminate student/patient outcomes (student/patient) • Refine consultant role to <i>entire cohort of</i> student hotspotting teams
Build 4Ms Geriatric Complex Care Curriculum (CCC)	<ul style="list-style-type: none"> • Refine understanding of key topics/issues related to aging and SDoH • Develop geriatrics CCC 	<ul style="list-style-type: none"> • Pilot geriatrics CCC 	<ul style="list-style-type: none"> • Refine geriatrics CCC • Create and implement “stand alone” curricula 	<ul style="list-style-type: none"> • Refine, expand and disseminate geriatrics CCC regionally and nationally • Seek opportunities to enhance health professions’ exposure to the field of geriatrics • Refine “stand alone” curricula
Develop Geriatric Leadership	<ul style="list-style-type: none"> • Increase participation in geriatric and educational national societies, apply for nomination as a committee member in STFM/AGS • Participate in professional development programming • Disseminate scholarly work describing curriculum and outcomes associated with hotspotting, geriatrics, and SDoH (submit at least 4 abstracts & 4 scholarly papers) • Apply for promotion to Associate Professor 			

TABLE 2. Key Partners in Career Development Plan

Name	Role	Biography
Brooke Salzman, MD Department of Family and Community Medicine, Division of Geriatric Medicine, SKMC	Primary Mentor	Hotspotting project lead at Jefferson University National Preceptor for hotspotting teams
Laurie Collins, MD Department of Family and Community Medicine, Division of Geriatric Medicine, SKMC	Consultant	Co-director of Jefferson Center for Interprofessional Practice and Education (JCIPE)
Tracey Vause Earland, PhD, OTR/L Department of OT, Thomas Jefferson University	Consultant	Project Lead and Faculty Advisor for Jefferson’s Hotspotting Hub
Amy Cunningham, PhD, MPH Department of Family and Community Medicine, SKMC	Consultant Statistician	Family & Community Medicine, Sidney Kimmel Medical College Research Assistant Professor
Steve Herrine, MD Department of Medicine, SKMC	Consultant	Vice Dean for Undergraduate Medical Education at Sidney Kimmel Medical College: curriculum point contact
Mandi Sehgal, MD Florida Atlantic University, Charles E. Schmidt College of Medicine	Consultant	Teachers’ Section Chair at AGS

Objective #1: Perform needs assessment(s) of student knowledge/biases regarding the impact of aging on social determinants of health inequities in the context of Hotspotting.

Overview: The assessment of learner needs is a crucial step in the development of effective education and training programs. The evidence is clear that programs based on well-conducted needs assessments lead to changes in learner behaviors.⁵ Shifts in learner engagement and practices can translate to transformation of health systems and patient outcomes. Prior to initiating a formalized geriatric hotspotting curriculum, it will be necessary to generate and analyze a learning needs assessment of Jefferson students.

Key Tasks: I will spend the first part of Year 1 reviewing established protocols and enhancing skills necessary to generate an effective needs assessment. I will connect with a regional “expert community” to gain increased familiarity with patient demographics and the hotspotting program in order to increase the specificity and accuracy of my needs assessment. I will subsequently create and disseminate a needs assessment, clarifying baseline level of knowledge/skills, biases, interests, and opinions of an incoming, general hotspotting student cohort. This will describe “performance gaps” and assist in establishing performance-based objectives, develop performance assessment measures, and set the scope of activity.

Key Partners: Dr. Salzman, Dr. Collins, Dr. Earland, Dr. Cunningham

Time Frame: Year 1, July 2019 - June 2020.

⁵ Fox RD, Bennet NL. Learning and change: implications for continuing medical education. BMJ. 1998 Feb 7;316(7129):466-8

Objective #2: Create and facilitate (precept) a distinct geriatric hotspotting clinical tract, housed within the Jefferson Geriatrics outpatient practice at Thomas Jefferson University.

Overview: As previously described, there is an existing hotspotting program maintained by JCIPE that include several teams of interprofessional students and faculty members engaging with a small pool of complex patients. However, the current program excludes patients over the age of 80 from participating. Through this GACA, I will create a geriatric clinical tract that will specifically support student team(s) to identify and assist complex older patients and address the interface of geriatrics and the social determinants of health

Key Tasks: In the first year of the grant, I will assume an active role in the current hotspotting program and serve as a “general” preceptor for team(s) of interprofessional students to gain familiarity with the existing curriculum. Responsibilities will include facilitating program orientation, skill workshops, and team meetings. I will also actively support students in identifying, enrolling, and engaging with complex patients and provide feedback throughout the process and on student final presentations. I will establish a recruitment strategy, which will involve contact points with the various colleges throughout the University (medical, nursing, social work, pharmacy, physical therapy, occupational therapy, physician assistant, public health, and family and couples therapy, among others). In the second year of the grant, I will formalize and matriculate students into a geriatrics hotspotting clinical experience that will serve patients from the Jefferson Geriatrics outpatient practice. I will serve as a formal preceptor by fulfilling all universal obligations required of that role. I will provide additional mentorship/guidance on challenging geriatric issues. In Years 3-4, I will refine the scope of the program (increase number of students as possible). Upon invitation, I will offer “drop-in” sessions with other hotspotting teams as consultant on issues related to aging/chronic disease. At the end of Years 2 through 4, I will perform a program assessment with student feedback that will be incorporated into planning the subsequent year.

Key Partners: Dr. Salzman, Dr. Collins, Dr. Earland, Dr. Cunningham

Time Frame: Year 2 through Year 4, July 2020 - June 2023.

Objective #3: Build and disseminate a geriatric curriculum encompassing the 4 Ms (What Matters, Mobility, Medications, and Mentation) that engages hot-spotters to maximize impact of interventions addressing social determinants of health and promotes collaboration among various healthcare providers.

Overview: Over the course of the four year grant, I will develop a 4Ms curriculum that specifically targets the interface of geriatrics and social determinants of health. The formal curriculum will target the entire hotspotting cohort (traditional and geriatric tract) through various forms. As the clinical geriatric tract evolves, I anticipate building additional “teachable moment” curricular elements. For example, student generated case scenarios will be collected – these real life examples will enhance the established theoretical curriculum, resulting in stronger commitment by tomorrow’s professionals.

Key Tasks: Over the course of four years, I will refine my understanding of social determinants of health with particular sensitivity to issues of aging and frailty. This will be accomplished by a comprehensive review of current literature, meetings with key regional experts in the field of public health, and participation in national conferences or regional/national coursework. *Putting Care at the Center*, a conference hosted by the National Center for Complex Health and Social Needs, will be a top priority in Year 1 to help build a strong foundation and establish connections with other health care professional who are creating new models of team-based integrated care. In Year 2, I will develop a formal geriatrics curriculum (ie - lectures, case studies, skill workshops, on-line modules) centered in the 4Ms and reflective of gaps in knowledge identified

in needs assessment as well as through my work with the pilot geriatric hotspotting team. The curriculum will be piloted to the entire hotspotting cohort in Year 3 and refined in Year 4. Once the curriculum is fully implemented, I will perform qualitative or quantitative assessments of student and patient impact (See Table 3 for potential outcome and measurement tools). In the last two years of the GACA, I will create and disseminate a “stand-alone” curriculum that will be offered to various learners (medical students, residents, fellows), which provides a snapshot overview of key issues related to aging adults and SDoH.

Key Partners: Dr. Salzman, Dr. Collins, Dr. Earland, Dr. Cunningham, Dr. Herrine

Time Frame: Year 1 through Year 4, July 2019 - June 2023.

TABLE 3. Potential Outcomes and Measurement Tools

IMPACT GROUP	OUTCOMES	MEASUREMENT TOOLS
Interprofessional learners	Increased knowledge, skills, attitudes, empathy and behaviors working with medically complex patients	<ul style="list-style-type: none"> • Student KSAB surveys (adapted with permission) <ul style="list-style-type: none"> ○ Attitudes Towards Homelessness Inventory (ATHI) ○ Health Professionals’ Attitudes towards Homeless Inventory (HPATHI) • Written reflection essays • Jefferson Scale of Empathy for Health Professions (JSE-HPs)
	Increased interprofessional collaborative practice	<ul style="list-style-type: none"> • Jefferson Teamwork Observation Guide (JTOG) survey
	Program evaluation/CQI	<ul style="list-style-type: none"> • Program evaluation surveys • Enrollment / attrition data
Patients	Improved patient experience	<ul style="list-style-type: none"> • Free-form interviews
	Improved sense of control over one’s health	<ul style="list-style-type: none"> • Multi-dimensional Health Locus of Control Survey
	Improved PCP and community resources utilization, decreased ED visits/hospitalizations, and decreased total cost of care	<ul style="list-style-type: none"> • EPIC electronic record system (EHR) data

Objective #4: Develop skills and expertise needed to become a leader in interdisciplinary geriatric education in an effort to ultimately leave a national impact on the care of older adults.

Overview: Over the course of the four-year grant, I will establish a foundation of scholarly work describing/assessing the interface of geriatrics and SDoH, increase my involvement in geriatric/educational societies at the national level, and participate in faculty development programming.

Key Task: My last objective for the GACA represents a long-term commitment to achieving positive change within the broader healthcare community as a leader in interdisciplinary education. A key objective will be to further develop specific leadership skills, build a national

network of colleagues and collaborators, and establish a foundation of scholarly inquiry. Nationally, I will attend the annual meetings for AGS, STFM and/or the AAFP and will become active in the AGS Teacher's Section Special Interest Group. By year 4, I will seek nomination for an AGS committee. I will submit at least one abstract for presentation annually at national meetings and will submit at least one scholarly paper for publication annually during the award period. In order to pursue increased national involvement, I will seek out advice and mentorship from Dr. Mandi Sehgal, the current Chair of the Teachers Section at AGS. I will meet with Dr. Sehgal annually during one of our national meetings to facilitate networking with key leaders, obtain ongoing mentorship for own work in developing innovative models in geriatric education, and provide introductions to other potential collaborators from other institutions. To acquire necessary leadership training, I will participate in faculty development opportunities at STFM and AGS annual meetings. I will also engage in at least one formal faculty development experience annually: national faculty development programs, regional / institutional faculty (live or on-line) development programs, or graduate level coursework centered in public health or education. National faculty development programs, such as the Harvard Macy Institute, AAMC Professional Development Seminar for Early Career Women, AAFP Health Equity Fellow, Duke Geriatrics Mini-Fellowship in Leadership and Scholarship, or Emerging Leaders in Aging Program (Tideswell at UCSF). I will work closely with my mentor, Dr. Salzman, to identify programs that support my needs and project objectives. Over the course of four years, I will actively cultivate my geriatric teaching portfolio with the objective of submitting an application for promotion to Associate Professor by the end of Year 4.

Key Partners: Dr. Salzman, Dr. Collins, Dr. Earland, Dr. Cunningham, Dr. Sehgal

Time Frame: Year 1 through Year 4, July 2019 - June 2023.

Mentorship Collaboration

Dr. Salzman will serve as my primary mentor during the four years of the GACA. Dr. Salzman has served as a mentor for the past 11 years, both formally and informally, throughout my residency, fellowship, and years as junior faculty. She has provided exceptional guidance and support throughout, identifying opportunities for enrichment, and collaborating on scholarly pursuits. As a regional and national leader in hotspotting and geriatric education, her expertise will provide a strong foundation for curriculum building, scholastic dissemination, and professional development and advancement. As a first step in the process, she has been actively advising throughout the creation of the GACA application.

b) METHODOLOGY

Faculty Career Development Plan

While hotspotting programs have national recognition and active programming, the **innovative quality** of this GACA lies in its support for an interprofessional program that specifically targets geriatric populations. There are no publications that evaluate the impact of a geriatric hotspotting programmatic and limited evidence of any programs exclusively targeting these remarkably vulnerable populations. The creation of this geriatrics clinical hotspotting tract and curriculum targets three distinct populations: (i) the most vulnerable subpopulation of urban, underserved older adults serviced through TJU Hospital, (ii) a cadre of interprofessional students committed to caring for people with complex medical and social needs, and (iii) myself as an geriatrician and educator.

My long-term career goal is to become an independent academic geriatrician, recognized nationally as an expert in developing and evaluating interprofessional complex care curricula addressing the intersection of complex patients and populations, interprofessional teams, and complex healthcare system. The following points provide a broad overview of the endeavored activities / programming for advancement as a clinician educator

- **Augment pedagogical experience to facilitate development as an academician and interact with clinician educators/program participants at the regional and national level:** On a regional level, I will collaborate with my mentor and key figures at the Jefferson Center for Interprofessional Practice and Education (Drs. Collin and Earland) and seek leadership positions within the center. I will actively engage in workshops / conference activities at national conferences (AGS/STFM/etc) that explore educational techniques and resources. To ensure the success of the curriculum development and professional advancement goals, I will seek out quality faculty development activities over the course of the four years. Choice of course will be made with the assistance of my mentors and based on current needs of career development plan, and depend on location and time being offered. A potential timeline is noted below:
- **Develop effective culturally and linguistically competent interprofessional curricular, tools, and training materials that address SDoH:** My first objective is to develop a deeper understanding of the SDoH that impact my local community, which will enable me to create effective curricular and clinical training materials. Engagement with the Camden Coalition of Healthcare Providers educational curriculum (the birthplace of the hotspotting movement), participation in conferences (*National Center for Complex Health and Social Needs: Putting Care at the Center* and focused workshops at AGS/STFM), as well as interacting with regional content experts (JCIPE, Population Health, etc) will lay a solid foundation. I have identified and will network with other researchers at other institutions who are engaged in scholarly dialogue around complex care curriculum. Finally, my involvement during Year 1 of the GACA as a faculty hotspotter advisor will provide me with a clear understanding of basic curricular tools / training materials that I can then adapt to address issues specific to aging populations.
- **Provide interprofessional geriatrics education and training to health professions students/faculty, direct care workers, and patients/families as well as transform clinical training environments to be age-friendly:** The hotspotting experience is deliberately engaging teams of interprofessional students who cover the full spectrum of health professions and, by definition, promotes age-friendly health systems by disseminating care driven by the 4Ms framework. Our goal focuses on optimizing health care and promoting patient engagement / satisfaction while avoiding healthcare-related harms for older adults with complex medical and social needs. This curriculum will be disseminated into discrete modules that can be disseminated to a general population of learners (ie – medical students, residents, etc).
- **Publish educational outcomes and disseminate reports, products, and/or project outputs so project information is provided to key target audiences:** My goal is to increase my scholarly productivity and target issues related to geriatric education and SDoH. I have an established track record of publication but I hope to narrow my focus through completion of this grant. Over the course of four years, I will present project design and/or outcomes at

national meetings, participate in research seminars within the Department of Family Medicine, participate in grand round poster presentation sessions at regional and national level, as well submit at least four manuscripts for publication in peer reviewed journals. I will work closely with my mentor to identify appropriate vehicles for curriculum and outcome dissemination.

- **Actively participate in national professional societies:** Beyond actively participating in national conferences annually, I will apply for committee service at either AGS/STFM by the end of Year 4.

Targeted learners include interprofessional students (accessible to all colleges as indicated on Attachment 8), who will emerge uniquely positioned with skillsets that screen and address social determinants of health that are often missed in busy inpatient and outpatient healthcare settings and promote collaborative practice behaviors that affect organization change. **Targeted patient populations** will be drawn from the standard hotspotting criteria (three of the following: admissions, chronic conditions, polypharmacy, limited care access, lack of social support, mental health disease, active drug use, homeless, lack of insurance) but age parameters will be adjusted to include all patients over the age of 65. Hotspotting, informed by a complex care curriculum, will provide our patients with optimized and individualized healthcare that aims to reduce healthcare related harms, increase patient trust, facilitate increased access, and improve overall patient satisfaction overall.

Targeted professional development goals: Beyond a four year investment in building and refining an innovative complex care curriculum and geriatric hotspotting experience, I am solidly engaged in the work of building leadership skills, refining my body of scholarly work, and establishing connections on the national stage with fellow educators. With this educational portfolio, I anticipate submitting a successful application for promotion to associate professor. My clinical and educational endeavors at TJU will remain at least 75% geriatric in nature, meeting the statutory service requirement.

Logic Model

Please reference Attachment 7

c) Resolution of Challenges

Potential barriers to implementing longitudinal curricula include: organization structures (scheduling, space logistics, equal representation of professions, aligning level of learners, faculty development, and academic credit recognition); and organization cultures (negative perception about utility, perception of add-on/extra work). Perhaps one of the greatest buffers in the face of these potential challenges is the support provided by the Jefferson Center for Interprofessional Practice and Education (JCIPE). The center, which facilitates the current hotspotting program at TJU, has demonstrated a decade-long legacy of building innovative IPE curricula, a track record of high-level engagement and a deep commitment to assessment, evaluation and continuous rapid-cycle quality improvement. Through partnership and mentorship with key JCIPE leaders, I gain an advantage of easy access to experience leadership as well as institutional/faculty staff/student leadership to help mitigate potential unforeseen implementation challenges. Supporting a transcript designation of “Excellence in Collaborative Practice” and the possibility of providing course credit for participation and dedication to complex care and collaborative practice will serve as a powerful motivator for student involvement. I further

anticipate that ongoing quantitative and qualitative program evaluations will help guide optimization of a geriatrics hotspotting tract, highlighting its tangible benefits and transformational impact on Jefferson students.

IMPACT: EVALUATION AND TECHNICAL SUPPORT CAPACITY

Program Performance Evaluation

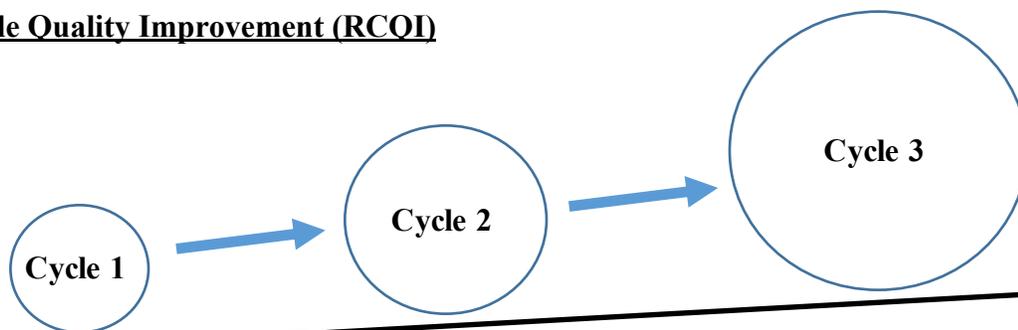
Program performance will be evaluated on the specific objectives outlined in Table 1 (Longitudinal GACA Work Plan). Dr. Salzman and I will meet bimonthly for ongoing mentorship. Once quarterly, these meetings will be devoted to reviewing my current progress towards meeting goals and objectives to date and formulating updated goals, objectives, and evaluation strategies. I will additionally schedule an annual meeting with my Department Chair (Dr. Christine Arenson) to provide a second level of assessment. Success of the career development plan will be measured in terms of tangible academic achievements, educational milestones, and patient outcomes:

- **Scholarly work:** one peer-review presentation annually throughout all four years, four manuscript submissions for publication in peer-reviewed sources
- **Leadership growth:** regional and/or national (committee participation)
- **Academic advancement:** preparation and submission of application for promotion to Associate Professor

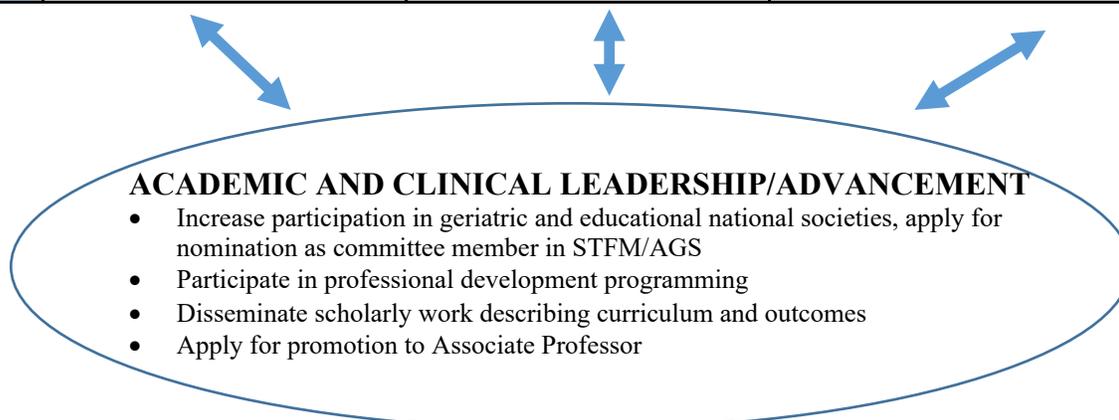
HRSA's Performance Measurement Requirements

Thomas Jefferson University (TJU) has a significant amount of experience in federal reporting requirements, including HRSA performance measurement requirements, and the Department of Family and Community Medicine has successfully reported on similar metrics on multiple HRSA funded past programs, including several GACA awards. TJU has research administration, educational assessment, and clinical/ population health systems, tools, and resources in place to support the Project Director in collecting and reporting all mandated data elements. Additionally, sufficient resources have been dedicated within this project budget to ensure compliance. As the PD, I will be responsible for required reporting and performance reports and will be assisted by mentors. I will have sufficient personal computing equipment, software including Word®, Excel®, Access®, and REDCap, and access to Jefferson's Blackboard educational platform.. Because ample resources in terms of hardware, software, personnel, and expertise exist, along with the full support of the educational and clinical leaders of TJU, I do not anticipate any obstacles to timely and accurate reporting of all required data and reports

Rapid Cycle Quality Improvement (RCOI)



	NEEDS ASSESSMENT (NA)	COMPLEX CARE CURRICULUM: Curriculum and clinical geriatric hotspotting	COMPLEX CARE CURRICULUM: Curriculum and clinical geriatric hotspotting
PLAN	Gather skills to create NA Identify key elements / outcomes to be procured from NA (knowledge, bias, attitudes, depth of past experience)	Gain practical hands-on experience with clinical hotspotting in “general population” Formalize a complex care curriculum grounded in principles of geriatric care	
DO	Implement NA to cohort of hotspotters (class 2019-2020)	Serve as geriatric hotspotter faculty advisor in geriatrics outpatient practice Implement complex care curriculum grounded in principles of geriatric care	Refine role as geriatric hotspotter faculty advisor in geriatric outpatient practice Refine complex care curriculum grounded in principles of geriatric care
STUDY	Analyze NA data	Assess student outcomes <i>(See Table 3)</i> Assess patient outcomes <i>(See Table 3)</i>	Assess student outcomes <i>(See Table 3)</i> Assess patient outcomes <i>(See Table 3)</i>
ACT	Outline core principles to be incorporated into geriatric complex care	Refine curriculum Refine programmatics Refine recruiting techniques	Disseminate outcomes on regional / national scale Disseminate curriculum on regional / national scale Seek opportunities to infuse geriatric CCC into Sidney Kimmel College curriculum



Program Impact Evaluation

Program impact may be evaluated by objectives outlined in Table 1 (Longitudinal GACA Work Plan) using measurement tools outlined in Table 3. Program impact may be measured in terms of tangible programmatic expansion and refinement, student outcomes, and patient outcomes:

- **Programmatic growth and success:** formulation and dissemination of complex care curriculum focused on the interplay of geriatrics and SDoH, number and diversity of student participation, acquisition of course credit
- **Student outcomes:** demonstrated increases in knowledge, empathy, interprofessional collaborative practice, etc...
- **Patient outcomes:** demonstrated improvement of patient experience, increased sense of control over health, improved health-care system outcomes (PCP utilization, ED utilization, etc.)
- There are a number of possible **Center for Medicare and Medicaid Merit-based Incentive Payment System (MIPS) performance measures** that could possibly be evaluated in the context of the program. Such measures include *Use of High-Risk Medications in the Elderly, Disorder and Major Depression: Appraisal for alcohol or chemical substance use, Preventive Care and Screening: Unhealthy Alcohol Use: Screening & Brief Counseling, Adherence to Antipsychotic Medications For Individuals with Schizophrenia, Anti-Depressant Medication Management, Elder Maltreatment Screen and Follow-Up Plan, and Evaluation or Interview for Risk of Opioid Misuse*. These outcomes will be reviewed for applicability and utility with my primary mentor and key consultants (Amy Cunningham and Jefferson Center for Interprofessional Practice and Education leadership).

IMPACT: PROJECT SUSTAINABILITY

This GACA proposal lends itself to a sustainable longitudinal program at Thomas Jefferson University, even past the period of federal funding. The foundational program is deeply entrenched within the institution – enjoying support and buy-in from JCIPE, lead faculty, and administrative leadership as well as a national reputation as a leadership program that has successfully generated clear learner and patient benefit. The single and most significant current obstacle that has prohibited the creation of a distinctive geriatric hotspotting tract (clinical experience and curriculum) to-date is simply the time needed for thoughtful planning, implementation, and assessment. Once the blueprint has been created and vetted through the auspices of the GACA, it will be easily continued and expanded institutionally and nationally. Challenges likely to be encountered in sustaining the program lie most prominently in recruiting sufficient geriatric faculty and student interest. Sufficient recruitment techniques (visibility) and clear dissemination of concrete results (shifts in learners knowledge/skills and patient outcomes), and creating a lock-and-key program that are easily replicated are all steps that may be taken to increase the programs long-term viability.

ORGANIZATIONAL INFORMATION, RESOURCES AND CAPABILITIES

Organization (Please see attachment 8)

Jefferson Health (JH): Jefferson Health is a 14-hospital health care system across southeastern Pennsylvania and southern New Jersey. Jefferson's flagship hospital, Thomas Jefferson University Hospital, is highly ranked by US News and World Report. Jefferson has joined the first cohort of institutions committed to becoming "Age Friendly". Under the leadership of Stephen Klasko, MD, MBA, Jefferson is committed to transforming healthcare to provide value to patients and improve the health of the population we serve.

Thomas Jefferson University is a comprehensive university with preeminence in transdisciplinary, experiential professional education, research and discovery, delivering exceptional value for the 21st century students with excellence in architecture, business, design, fashion, engineering, health, medicine, science and textiles – infused with the liberal arts. The school is comprised of six colleges directly relevant to the scope of this interprofessional GACA hotspotting project, including the Sidney Kimmel Medical College, Jefferson College of Nursing, Jefferson College of Population Health, Jefferson College of Health Professions, Jefferson College of Rehabilitation Sciences, and Jefferson College of Pharmacy. Jefferson is firmly committed to re-imagining health professions and is supportive of complex care training initiatives. Jefferson matriculates actively engaged students and a strong tradition of student "buy-in" for opportunities to participate in complex care and IPE.

Jefferson Center for Interprofessional Education (JCIPE): Established in 2007, JCIPE is one of the nation's first IPE centers. JCIPE launched the Health Mentors Program in 2007 and has educated nearly 4,000 students in this model program that brings teams of students from 4-5 professions together with a person (the "Health Mentor") who is living with a chronic condition. The Health Mentor serves as teacher and also team member, as students learn with, from, and about each other's roles on the health care team, develop a deep understanding of patient-centered care, and place "medical" care into a holistic person-centered context of wellness and health. JCIPE is actively engaged in building clinical IPE experiences, including TeamSTEPPS® curriculum, across campus, and in developing competency-based assessment tools so that students, faculty, and patients can identify effective team-based care. Dr. Arenson, PD for this project, was the founding co-director of JCIPE. Dr. Arenson holds a variety of leadership positions in the IPE community nationally, and JCIPE faculty have published over 60 articles in the peer-reviewed literature.

Department of Family and Community Medicine (DFCM): The DFCM, chaired by *JeffPCC* project director Dr. Arenson, was founded in 1974 and quickly became a leader in medical student and residency education. Over the past four decades, DFCM has leveraged HRSA support, institutional resources, and a talented faculty to create and sustain primary care, PCMH, population health, primary care research, and faculty development curriculum. In addition to a required 3rd year clerkship, approximately ½ of the 4th year class of SKMC takes electives through DFCM, and faculty are actively engaged in the 1st and 2nd year as well. 30 residents come from across the country, and 40% are from under-represented in medicine backgrounds; many choose to practice in underserved communities and to teach family medicine. Fellowships in sports medicine, geriatric medicine, palliative care and primary care research are also offered. DFCM committed to PCMH transformation ten years ago, and was an active participant for the six years in two state-wide PCMH demonstration projects. In fact, in 2008, DFCM became the

first NCQA Level 3 Certified academic practice in the US. This experience has led to a change in how we practice family medicine, and had significant impact on quality metrics within our practices. DFCM faculty are leaders in the JeffCare Alliance CIN and DVACO, and are looked to as leaders in system-wide primary care redesign.

JeffCare Alliance Clinically Integrated Network (CIN): In 2014 Jefferson established JeffCare Alliance as the clinically integrated network able to administer value-based contracts and leverage resources to support primary care practice transformation. JeffCare Alliance is developing robust population health resources to support providing high-value care to patients across our health system. JeffCare Alliance resources particularly relevant to this GACA include: enhanced **data analytics** support, which allows accurate and timely identification of high risk individual patients by synthesizing clinical data from our electronic health record, claims data, and demographic data; **care coordination** services, including nurses, medical assistants, and social workers, who are actively engaged in primary care practices, including Jefferson Geriatrics, to identify and support patients at times of critical transitions of care, homebound patients, and patients with complex multimorbidity; and **integrated behavioral health** which is incorporating licensed clinical social workers with expertise in counseling and self-management skills development as fully engaged members of primary care teams.

Center for Research in Medical Education and Health Care (CRIMEHC): CRIMEHC, directed by former SKMC Dean Joseph Gonella conducts the **Jefferson Longitudinal Study (JLS)** for all SKMC graduates. JLS data is made available to Jefferson faculty conducting educational program evaluations such as for *JeffPCC*, making it possible to monitor educational outcomes longitudinally.

Primary Mentor (Dr. Brooke Salzman)

Dr. Salzman is a practicing geriatrician and a clinician educator with multiple leadership roles at regional and national level. She is the program director of the Geriatrics Fellowship program at Thomas Jefferson University (TJU) and a member of the Ethnogeriatrics committee at AGSDr. Salzman has significant expertise in curricula development – serving as the Geriatric Fellowship Program Director, Course Director of the SKMC third-year selective clerkship in geriatric medicine, and the SKMC Director of the Healthcare Systems Track for the Scholarly Inquiry curriculum. Most directly relevant to the GACA application is Dr. Salzman's extensive history with hotspotting. Dr. Salzman was a PI of Thomas Jefferson University's initial hotspotting grant application when the Interprofessional Hotspotting Learning Collaborative was started in 2014. She currently serves as a hotspotting project lead at Jefferson University and serves as a national preceptor for hotspotting teams.

Dr. Salzman and I have engaged in extensive discussion throughout the project development process. She has been elemental in her ability to provide context and resources that have guided key objectives and has provided specific initial recommendations on professional development activities and opportunities. We have clearly established a mentorship plan, which will include bimonthly and quarterly meetings to assess and refine project goals and outcomes. I have known Dr. Salzman since my internship year in Family Medicine and she has been one of the greatest champions for my professional development as an academic geriatrician. To that end, I know that she is committed to my career and direct supervision of my project.