Advancing Innovation in Residency Education (AIRE) Proposal:

Medicine-Geriatrics Integrated Residency and Fellowship

March 31, 2020

A. Title: Medicine-Geriatrics Integrated Residency and Fellowship

B. Goals and Objectives:
The geriatric workforce must be expanded to meet the needs of the steadily growing aging population. The U.S. population age 65 and over increased from 37.2 million in 2006 to 49.2 million in 2016 (33% increase) and is projected to nearly double to 98 million by 2060.[1] The 85 and over population is projected to increase from 6.4 million in 2016 to 14.6 million by 2040 (129% increase). The gap between the increasing number of older Americans and the inadequate number of geriatricians has been well-documented. The American Geriatrics Society (AGS) anticipates that approximately 30% of Medicare beneficiaries will require care from a geriatrician. The current 7,300 board certified geriatricians practicing in the U.S. would need to expand to 30,000 geriatricians by 2030. Unfortunately, current trends suggest achieving that number of geriatricians is unlikely. Innovative training models are needed to address the increasing demand for geriatricians and to expand the workforce with critical knowledge and skills to care for older adults.

A recent study of fellows in geriatrics training programs across the United States explored motivating factors leading fellows to pursue geriatrics.[2] Fellows indicated that *early exposure* to geriatrics and *mentorship* were the most influential factors affecting career choice. The results of this study should inform novel approaches to both encourage trainees to enter the field and enhance early medical student and resident exposure to geriatrics.

To meet this training imperative, the American Geriatrics Society (AGS) and the Association of Directors of Geriatric Academic Programs (ADGAP) convened a national workgroup of geriatric graduate medical education leaders to investigate possible innovative pathways. A review of current existing combined Internal Medicine and Geriatrics tracks revealed higher fellowship fill rates than the national average and overall satisfaction from residents and program directors. Discussions with other similar innovative track leaders (combined geriatrics-palliative care fellowship and combined internal medicine-cardiology training) emphasized the importance of using synergies in training time and competency-based medical education to develop enhanced skills during training.

We propose an integrated medicine-geriatrics residency and fellowship pathway to meet the core ACGME requirements of an Internal Medicine (IM)/Family Medicine (FM) residency and Geriatric Medicine Fellowship in an innovative, competency-based 48-month (four year) program. This will capitalize on the early exposure to geriatrics and mentorship critical in influencing trainees' career choices and allow for increased flexibility for some fellows to pursue advanced leadership skills and scholarship.

This proposal aims to create an overarching curricular framework and establish a Med-Geri Leadership Team to provide participating programs with curriculum templates, assessment tools, assistance with outcome tracking, and ongoing support to enable successful implementation and evaluation of this innovative competency-based training. Through this pilot and increased adoption of this training paradigm we hope to:
1. Improve *patient* outcomes by increasing the number of well-trained Geriatrics specialists

---

[1] 2017 Profile of Older Americans, Administration for Community Living, Administration on Aging, U.S. Department of Health and Human Services, 2018
[2] Blachman N, Blaum C, Zabar S, Reasons geriatrics fellows choose geriatrics as a career, and implications for workforce recruitment, Gerontology and Geriatrics Education, 2019.

2. Improve *trainee/fellow* outcomes and satisfaction by increasing direct observation, assessment of geriatric competencies and tracking of trainee development
3. Increase the number of *faculty* trained in the theory and practice of Competency-Based Medical Education (CBME)
4. Make contributions to the *medical educational system* by testing the performance of CBME assessment tools
5. Improve *public health* by addressing Geriatric Medicine community needs.
6. Improve *leadership* training in Geriatric Medicine fellowships and increase outstanding *academic leaders* in the field of Geriatrics

The overarching goals of the integrated medicine-geriatrics pathway are:

Goal 1: To capitalize upon and maintain early interest in geriatrics.
Obj. 1.1: To recruit medical students into PGY1 training slots that result in the completion of geriatric fellowships.
Obj. 1.2: To improve the proficiency of residents in geriatric competencies and enhance visibility and exposure to geriatrics during residency by embedding committed future geriatric fellows in residency programs.

Goal 2: To provide early and ongoing mentorship and career guidance in geriatrics.
Obj. 2.1: To engage residents in career development planning.
Obj. 2.2: To increase the practice of geriatric medicine after fellowship.

Goal 3: To increase flexibility and enhanced professional development during the final fellowship year.
Obj. 3.1: To increase scholarly achievement during fellowship year
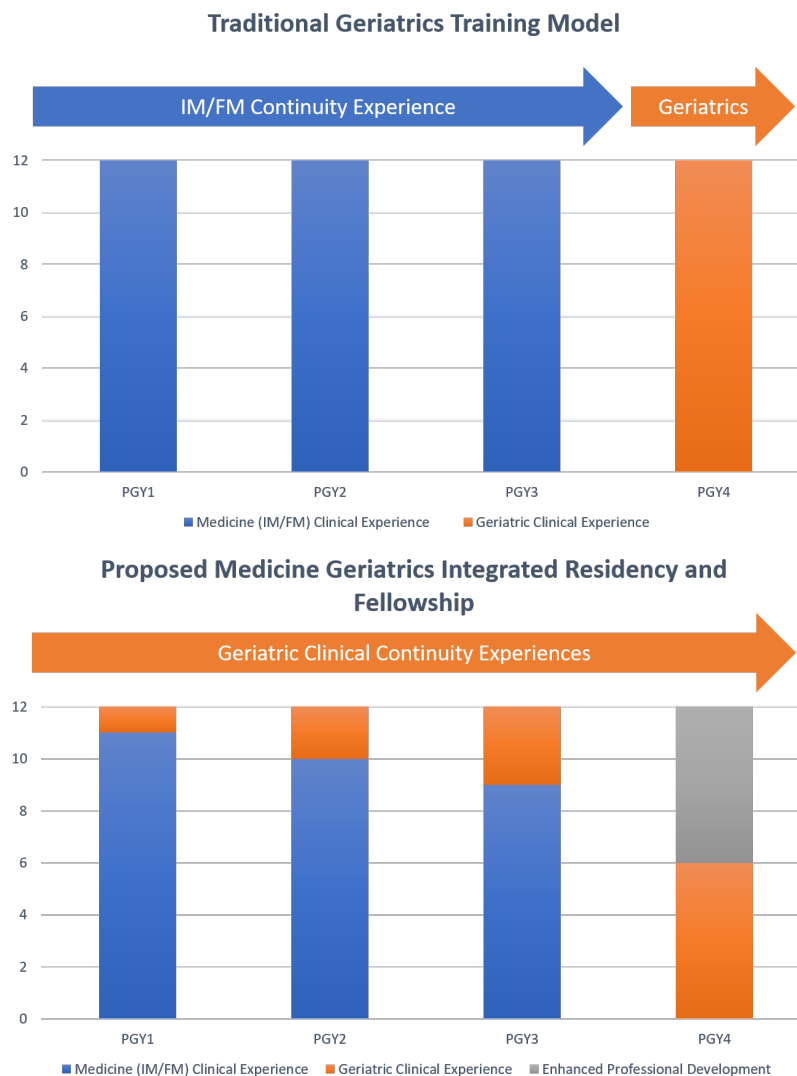*Obj. 3.2:* To increase fellows' development of advanced skills that enable them to become future leaders in the field

C. Description of the Innovation:

The proposed Medicine-Geriatrics Integrated Residency and Fellowship (Combined Med-Geri Pathway) provides an alternative pathway for training geriatricians by integrating the clinical experiences required in a geriatrics fellowship across the internal medicine or family medicine residency and meeting geriatric competencies in an innovative four-year (48 month) program. This competency based combined training model does not shorten the total training time for either residency or fellowship, but rather, integrates training to allow for early exposure to geriatrics principles of care and enhanced professional development opportunities during the fellowship year. In this training model, IM or FM residents will continue to meet all of their residency requirements in a 3-year period, and will continue to sit for their IM or FM board certification examination at the usual time. Further, in this training model, geriatric fellows will continue to meet all of their fellowship requirements and will continue to have a minimum of 12-months of clinical geriatric experiences. The changes proposed in this training model involve the chronological sequence of training and does not suggest waiving any requirements.

The Combined Med-Geri Pathway accomplishes these goals by capitalizing on existing overlap in training requirements of block rotations and longitudinal continuity experiences for IM/FM residencies and geriatric fellowships. These key synergies are outlined in Table 1 (Sample Block Rotations) and Table 2 (Sample Longitudinal Rotations) found in the Appendix. A schematic of the current training model and the Combined Med-Geri Pathway are pictured

below.

Traditional Geriatrics Training Model

IM/FM Continuity Experience → Geriatrics →

12				
10				
8				
6				
4				
2				
0	PGY1	PGY2	PGY3	PGY4

■ Medicine (IM/FM) Clinical Experience   ■ Geriatric Clinical Experience

Proposed Medicine Geriatrics Integrated Residency and Fellowship

Geriatric Clinical Continuity Experiences →

12				
10				
8				
6				
4				
2				
0	PGY1	PGY2	PGY3	PGY4

■ Medicine (IM/FM) Clinical Experience   ■ Geriatric Clinical Experience   ■ Enhanced Professional Development

Integrating geriatric clinical experiences into residency training will allow for time during the fellowship year to be dedicated towards enhanced professional development. The current Geriatric Core Program Requirement IV.A.3.a)[3] states that "All 12 months of the educational program [geriatric fellowship] must be devoted to clinical experience." This innovation does not propose waiving any requirements, as graduates from the Medicine-Geriatrics Integrated Residency and Fellowship will have *a minimum* of 12 months of clinical geriatrics experiences. However, these clinical experiences will be spread throughout all four years of training. Remaining months of fellowship may involve both clinical and non-clinical experiences, individually tailored to the fellow's career interests and contingent upon the fellow meeting the

---

[3] ACGME Program Requirements for Graduate Medical Education in Geriatric Medicine. Revised Common Program Requirements effective: July 1, 2017. Available at
https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/125-151_geriatric_medicine_2017-07-01.pdf?ver=2017-04-27-151548-643.

ACGME geriatric competencies, geriatric curricular milestones[4], and geriatric end-of-training entrustable professional activities.[5] This competency-based training program improves on current models by allowing targeted skill development of physician leaders, innovators, and geriatricians that meet the needs of patients today and of the future.[6,7]

Graduating trainees from the Medicine-Geriatrics Integrated Residency and Fellowship will be amply prepared to meet the needs of our aging population. Trainees will maintain the same sequence of certification and will be board-eligible in their core specialty during their PGY3 year (FM) or in the year following their PGY3 year (IM). They will then be eligible for subspecialty board certification in geriatric medicine following successful completion of their PGY4 year.

Students applying to and residents participating in a Medicine-Geriatrics Integrated Residency and Fellowship position will be fully informed about their training options (to do a traditional IM or FM residency and separate geriatric fellowship versus this pathway) by the individual institutions/sites offering this pathway before they elect to apply or participate. Additionally, individual institutions/sites offering this pathway will fully inform applicants/participants about the key expectations and core requirements of this pathway and that the Med-Geri Leadership team at AGS will be collecting de-identified data to track the pathway's outcomes and impact on the clinical learning environment. Applicants will be informed that they are providing their assent to participate in the pathway when they apply to a given program. An ethics committee review is not necessary.

D. Methodology and Evaluation:

<u>Clinical Curriculum</u>

The Med-Geri Pathway curriculum will contain a minimum of 12 months of geriatric clinical training to be obtained over four years with at least 33% occurring in an ambulatory care program. In the PGY1-3 years, trainees in the pathway will have *a minimum* of 1-2 months of geriatric clinical blocks per year. See Appendix Table 1 – Sample Block Rotations for a list of block rotations that would provide clinical experience that advance IM/FM and Geriatric Medicine competencies. Additionally, in the PGY1-3 years, trainees in the pathway will also have 1-4 half days of geriatric longitudinal experiences, listed in Appendix Table 2 – Sample Longitudinal Rotations. These continuity experiences may also contribute to the continuity expectations of the IM or FM residency program, but do not replace other core program requirements. For example, a family medicine trainee's LTC continuity visits will count towards family medicine requirements and the geriatrics continuity requirement, but FM residents must still ensure they reach the required 165 pediatric visits to meet FM core program requirements.

During the PGY4 year, trainees will complete the remaining geriatric clinical experiences, both block and longitudinal. This will include at least 6-9 months of block rotations and the required longitudinal experiences. Amount of time spent in block and longitudinal experiences will be

---

[4] Parks et al. (2014). American Geriatrics Society / Association of Directors of Geriatric Academic Programs Curricular Milestones for graduating Geriatric Fellows. *Journal of the American Geriatrics Society; 62(5):930-5.*
[5] Leipzig et al. (2014). What is a geriatrician? American Geriatrics Society and Association of Directors of Geriatric Academic Programs End-of-Training Entrustable Professional Activities for Geriatric Medicine. *Journal of the American Geriatrics Society,* 62(5):924-9.
[6] Nasca TJ and Thomas CW. (2015). Medicine in 2035: Selected Insights from ACGME's Scenario Planning. *Journal of Graduate Medical Education,* 7(1):139-42.
[7] Simpson et al. (2017). The 2025 Big "G" Geriatrician: Defining Job Roles to Guide Fellowship Training. *Journal American Geriatrics Society*, 65(10):2308-2312.

individually determined by the ability of the fellow to meet geriatric competency and Entrustable Professional Activity (EPA) standards (see Assessment section below).

If the fellow's individual learning plan allows for enhanced professional development, the remaining 3-6 months of the PGY4 year will focus on identified area/s of concentration or specialization (see list below). This will be determined by the fellow's interests, the sponsoring institution's strengths and resources, and the Clinical Competency Committee's (CCC's) assessment of the fellow. These enhanced professional development activities must be robust with appropriate supervision, learning objectives, and assessment methods. A mentor in the area of concentration or specialization area will work with the trainee to develop individualized and appropriate goals, objectives, and scheduled experiences.

- Potential areas of concentration / specialization during PGY-4 year:
    - Bioethics
    - Clinical Areas of Concentration
        - Enhanced practice in core specialty
        - Geriatric Primary Care
        - Home Care
        - Hospitalized Older Adults
        - Integrating geriatrics into other sub-specialty such as cardiology, nephrology, oncology, etc.
        - Long-Term Care
        - Memory Care
    - Palliative / Hospice Care Clinical Educator
    - Global Health
    - Health Systems Leadership
    - Informatics
    - Innovative Technologies
    - Medical Directorship
    - Policy/Advocacy
    - Population Health
    - Quality Improvement/Patient Safety
    - Research

If an extension of training time beyond the 4-years is needed, due to unforeseeable trainee circumstances, individual programs will work with trainees to develop a contingency plan to ensure completion of his/her training requirements. Specific clinical and educational experiences would be tailored to the individual's goals and interests, competency-based assessments, and determined by individual institutions.

If a trainee, after completing a 3-year residency in IM or FM in this med-geri pathway, then decides to pull out of the program early before completing the 4th year, the geriatric clinical experiences completed during residency would not qualify as or count towards a geriatric fellowship. If the trainee wanted to do a geriatric fellowship at a later time, or at a different institution, the trainee would have to complete a 12-month geriatric fellowship.

Scholarship/Didactics:

Trainees at all levels (PGY1-4) must have the opportunity to attend geriatric medicine journal club, geriatric clinical case conferences, morbidity and mortality reviews, and geriatric topic

didactics. Trainees in the pathway should facilitate at least one of these geriatric teaching conferences each year for their IM/FM resident colleagues.

In the PGY1-4 years, trainees must have a minimum requirement of participating in one Quality Improvement or Patient Safety project per the 4-year period focused on improving care for older adults.

Trainees at all levels (PGY1-4) must have the opportunity to participate in research or other scholarly activities, and if institutional resources allow, trainees should be encouraged to attend one national geriatrics meeting during the 4-year period (e.g. AMDA, AGS, GSA, AAHPM).

Competency Based Medical Education and Self Directed Learning

All trainees, will be engaged in self-directed learning through the creation of individual learning plans throughout their training. This will include documentation of career plans, self-assessment, goals, objectives, and yearly tasks. Individual learning plans will be reviewed with the program director as part of ongoing and early mentorship.

Assessment Measures:

Formative and Summative evaluation for each resident and fellow will be completed. Evaluation will occur for each rotation and may be done with assessments as listed in Appendix Table 3 – Assessment Measures. Italicized assessments listed in Appendix Table 3 *must* be used and are also listed below in an abbreviated table. Strongly recommended measures include in-training examination (medical knowledge) and simulation (patient care – procedures, and interpersonal communication skills).

Table 1: Required Assessment Measures

Required Assessment Measure	Core Competency Assessed
Faculty Evaluations	Patient care, interpersonal communication skills, professionalism, systems based practice, practice based learning and improvement, medical knowledge
Direct Observations (+/- questioning)	Patient care, interpersonal communication skills, and medical knowledge
Multi-source feedback	Professionalism, interpersonal communication skills, systems based practice
Audit and Performance Data	Systems based practice, practice based learning and improvement

The Medicine-Geriatrics Integrated Residency and Fellowship Program Director will review the results of these assessments with the trainee and provide opportunities for achieving skills, and ensure development of an individualized learning plan for the trainee annually.

Key components of summative evaluation include:
- IM/FM curricular milestone performance and progress to be evaluated bi-annually by IM/FM Clinical Competency Committee (CCC)
- Medicine-Geriatrics Integrated Residency and Fellowship Program Director will sit on IM/FM CCC for participating trainees
- IM/FM residency curricular milestones will be met by the end of the PGY3 year

- Geriatrics CCC will perform integrated mapping of progress towards the geriatrics curricular milestones bi-annually during all four years of training
- Medicine-Geriatrics Integrated Residency and Fellowship Program Director will assist in reviewing self-directed individual learning plans yearly with each med-geri trainee
- At end of PGY3 year, an individualized learning plan will be created for fellowship year that will outline fellow's clinical rotations and longitudinal experiences necessary to meet geriatric curricular milestones and plan for the fellow's enhanced professional development
- Individualized learning plans will be created by development of a geriatric milestone handover and trainee-derived educational goals. Prior examples of similar models have been done in other specialties.[8,9]
- During the PGY4 year, summative evaluation will occur bi-annually and should include reporting of geriatrics fellowship milestones which must be met by the end of the PGY4 and will be based upon consensus geriatric competencies and entrustable professional activities.[10,11,12] These are mapped in Appendix Table 10.

An outline of the roles of the IM/FM CCC and Geriatrics CCC is listed below in Table 2

Table 2 – Integrated Summative Evaluation

Year of Training	IM/FM CCC role	Geriatrics CCC role
PGY1	• Evaluate bi-annually	• Evaluate bi-annually
PGY2	• Evaluate bi-annually	• Evaluate bi-annually
PGY3	• Evaluate bi-annually • Trainee must meet IM/FM residency curricular milestones by end of year	• Evaluate bi-annually • End of year – create individualized learning plan with trainee.
PGY4	• N/A	• Implement individualized learning plan • Evaluate bi-annually • Trainee must meet geriatrics curricular milestones by end of year

<u>Trainee Remediation</u>

The traditional 1-year fellowship in geriatrics allows very little time for identification of deficiencies, the need for remediation, and development of a remediation plan. This innovative model, which involves competency-based assessments performed by the Geriatrics CCC starting in the PGY1 year (in addition to the core specialty IM or FM CCC), will allow for earlier identification of deficiencies in the provision of geriatric care and the need for remediation, as well as time to develop a tailored remediation plan throughout all 4 years of training.

---

[8] Wancata LM, Morgan H, Sandhu G, et al. (2017). Using the ACGME milestones as a handover tool from medical school to surgery residency. J Surg Euc, 74: 519-529.
[9] Schiller JH, Burrows HL, Fleming AE, et al. (2018). Responsible Milestone-Based Educational Handover with Individualized Learning Plan from Undergraduate to Graduate Pediatric Medical Education. (2018). Acad pediatr, 18(2):231-233.
[10] ACGME Program Requirements for Graduate Medical Education in Geriatric Medicine. (2017)
[11] Parks et al. (2014).
[12] Leipzig et al. (2014).

If a trainee is not meeting his/her milestones appropriately, a formal remediation plan should be initiated. This remediation plan should be overseen by the IM/FM residency program director (during PGY1-3 years) and/or the Geriatrics fellowship program director (during PGY4 year). Detailed remediation plans will be provided by specific institutions implementing this proposed pathway. Remediation should be completed consistent with best practice[13,14] and should include:
   (1) Identification of deficit
   (2) Development and execution of a prescribed plan to address the deficit
   (3) Ongoing assessment in area of deficit to determine if plan has met its goal

Faculty Development

To ensure that programs are capable of administering competency based assessments and developing individualized learning plans, faculty development is necessary. Program directors must understand the theory and practice of competency based medical education and will guide core faculty involved in the direct observation and teaching of trainees in these areas. Per expert recommendations[15] faculty development in competency based medical education will include:
   - Frame of reference (FOR) training, i.e. training in use of milestone reporting[16]
   - Feedback to faculty on their performance as rated by trainees compared with their peers
   - Training in the use of assessment measures (Appendix Table 3)
   - Opportunity for further faculty development either locally or nationally.
In addition to the above, the Program Director and Clinical Competency Committee must receive faculty development in facilitating trainee developed individual learning plans. This will include:
   - Training in geriatric specific, milestone-based competency handover between medicine residency and geriatrics fellowship.
   - Training in facilitation of trainee-derived educational goal setting.
Evaluation of faculty development effectiveness must be completed as part of the continuous quality improvement process and may require development of portable curriculum as determined by the monitoring process. Detailed plans for core faculty development activities and assessment of such activities will be provided by specific institutions implementing this proposed pathway with support from the Med-Geri Leadership Team as needed.

Improved Learner Outcomes

   (1) Personal Learning Plans: Competency-based medical education (CBME) has been recognized as necessary for the training of physicians and more recently it has been operationalized in the reporting of curricular milestones, now required by the ACGME. This AIRE proposal capitalizes on the opportunities present in CBME by allowing residents and fellows to use their milestone assessment to inform personal learning plans.
   (2) Earlier identification of trainees requiring remediation: Competency-based assessments performed by the Geriatrics CCC starting in the PGY1 year, will allow for earlier

[13] Hauer KE, Ciccone A, Henzel TR, et al. Remediation of the deficiencies of physicians across the continuum from medical school to practice: a thematic review of the literature (2009). Acad Med, 84:1822–32.
[14] Ellaway RH, Chou CL, Kalet AL. (2017). Situating remediation: accommodating success and failure in medical education systems. Acad Med, 93(3):391-398.
[15] Holmboe ES, Ward DS, Reznick RK et al.(2011) Faculty development in assessment: the missing link in competency-based medical education. Acad Med, 86(4):460-7.
[16] Holmboe ES, Edgar L, Hamstra S. (2016) The Milestones Guidebook. ACGME.

identification of deficiencies and need for remediation. The traditional geriatrics training model allows for very little time before this critical recognition and subsequent remediation must be made.

(3) <u>Early mentorship</u>: This integrated pathway provides early mentorship through meeting semi-annually with the Geriatrics Program Director or Associate Program Director for summative review.

(4) <u>Early geriatrics exposure</u>: Early geriatrics exposure will occur by rotating with core geriatrics faculty members throughout four years of training. Increasing early mentorship and exposure to geriatrics will allow for enhanced career planning.

(5) <u>Enhanced career and skill development</u>: Because of the synergies in training between IM/FM residency and geriatrics fellowship, time will then be allowed to translate this career planning into enhanced career and skill development.

(6) <u>Increased geriatrics visibility</u>: "Med-geri" peers, embedded in internal and family medicine residency programs will increase exposure to geriatrics throughout participating residency programs, institutions, and clinical settings.

(7) <u>Deepened geriatrics learning</u>: The integration of geriatric principles of care earlier in IM/FM training deepens knowledge and enhances competencies in geriatrics by creating a foundation that is built upon throughout training. Instead of learning geriatric principles primarily *after* core training, this pathway allows geriatric approaches to be introduced early and revisited in an iterative fashion over time with ongoing reflection about incorporation into patient care throughout clinical settings (e.g.. ICU, general hospital, ambulatory practice) and with patients of varying health status and underlying conditions.

(8) <u>Advancement of internal / family medicine core competencies:</u> Earlier introduction to geriatric principles and clinical care may advance attainment of competencies in the core specialty. Geriatrics provides clinical experiences that emphasize the interdisciplinary team, attention to iatrogenic hazards of healthcare, comprehensive and holistic care across the continuum, attention to psychosocial needs, and addressing the patient and caregiver/s as one unit requiring care, and communication skills, all of which are critical to patient care, regardless of field. Therefore, integration of geriatrics early on and throughout residency benefits the training experience in the core specialty, not only in geriatrics.

<u>Improved Patient Outcomes</u>
(1) <u>Increased number of geriatricians</u>: By using an innovative training pathway to capture and maintain early interest in geriatrics, this proposal hopes to increase the number of geriatricians trained.

(2) <u>Geriatricians with advanced skills:</u> This pathway will train geriatricians that can thrive and lead in the health landscape of the future – one that will require knowledge and skills in geriatrics education, health systems leadership, value-based care, and innovative technologies so that geriatrics care can reach a growing population of older adults.[17]

(3) <u>Improved geriatric competencies for other non-geriatricians at sponsoring programs and institutions</u>: By increasing geriatrics visibility and exposure throughout IM/FM residency programs and institutions by embedding geriatric ambassadors in core programs, essential geriatric competencies will also be spread through other specialties and sub-specialties.

E. Clinical learning environment impact assessment:

---

[17] Simpson et al. (2017).

Multiple sources of data will be collected to determine the impact of the Medicine-Geriatric Integrated Residency and Fellowship model of training on the clinical learning environment including:

- Clinical rotation evaluations from residents in the pathway will be examined and compared with residents not in the pathway, as well as from fellows in the pathway compared with fellows not in the pathway.
- Programs will monitor results of their ACGME trainee and faculty surveys to examine impact of the pathway.
- The pathway will be examined during the Annual Program Evaluation (APE) for both the core specialty as well as for the geriatric fellowship.

Learners at the sponsoring institutions who are not involved in the innovation will also be monitored. Their geriatrics learning experience can be measured both by (1) time on geriatrics rotation(s) and (2) geriatrics knowledge demonstrated on geriatrics in-training examination. Results from pre and post innovation can be compared to ensure their geriatrics clinical learning experience is not diminished.

The program evaluation data will be reviewed by the Medicine-Geriatric Integrated Residency and Fellowship Leadership Team. The Med-Geri Leadership Team will also survey Program Directors from core specialties and geriatric fellowships at institutions with the pathway.

F. Monitoring:

The Geriatric Fellowship Program Director will oversee implementation and evaluation of the geriatric curricular components of the integrated medicine-geriatrics residency and fellowship at each institution. He/she will be responsible for meeting program requirements as described by the ACGME and outlined in this proposal. The Internal/Family Medicine Program Director will maintain authority and accountability for the residency training program and will be responsible for complying with all applicable ACGME program requirements in the core specialty (IM/FM).

Additionally, a Med-Geri Leadership Team for the innovation will be created. This team will include experts on geriatric graduate medical education and assessment and evaluation from the American Geriatric Society (AGS), the Association of Directors of Geriatric Academic Programs (ADGAP) and from Internal and Family Medicine, as well as IM/FM residents and geriatric fellows. The Med-Geri Leadership Team will assist IM/FM residency and geriatrics fellowship programs in developing, implementing and evaluating new participating medicine-geriatrics integrated residency and fellowships. The work of the proposed Med-Geri Leadership Team would be to support AIRE proposals by specific institutions using the proposed framework. AIRE proposals for specific institutions would still require review by AIRE staff and ultimately, the appropriate RRC(s). The described Med-Geri Leadership team would not have the accreditation authority to approve pilots, which would remain the purview of the ACGME and its appropriate RRCs.

However, the Med-Geri Leadership Team will assist institutions with the application and review process for programs applying to AIRE to create a medicine-geriatrics integrated residency and fellowship. This will include developing application materials, scheduling conversations between the workgroup and the individual sites/programs, managing the review of applications and additional correspondence once review decisions have been made, and collect evaluation data from programs. The Med-Geri Leadership Team will be responsible for reviewing programmatic design, ensuring fulfillment of outlined criteria, and tracking outcomes of the integrated pathway. The workgroup will meet biannually in person or via conference call to review programs'

evaluation data, and to assess whether programs are meeting desired outcomes. The Leadership Team will produce an annual progress report after compiling programs' data to address the overarching questions of what is working, for whom, under what circumstances, and why regarding this innovation. Please see *Appendix Table 4 – Monitored Outcomes by Medicine-Geriatrics Integrated Residency and Fellowship and Sample Survey* to see data to be collected and reviewed by the Med-Geri Leadership Team.

If programs do not meet outlined criteria appropriately, a formal remediation plan will be initiated. This process, led by the Med-Geri Leadership team, will allow for identification of deficiencies in fulfillment of outlined criteria, development of a plan to address deficiencies, and ongoing assessment to determine whether the plan addressed deficiencies. For programs for which remediation is unsuccessful, the Med-Geri team will provide options for succeeding, even if this means discontinuing the pathway.

G. Program Evaluation:

Program Evaluation will be robust and allow for continual improvement. Evaluation will include:
    (1) <u>Progress evaluation</u> – determined by ability to meet implementation goals of established timeline as described in Section H – Timeline.
    (2) <u>Process evaluation</u> – determined by ability to meet goals, objectives, and measurable outcomes as described in Section I – Description of Measures
    (3) <u>Impact evaluation</u> –determined by ability to meet impact targets based on Kirkpatrick's levels of training evaluation as listed in Table 3 below.

Table 3 - Impact Evaluation based on Kirkpatrick's Model of Four Levels of Learning Evaluation

Levels of Learning Evaluation	Assessment Method	Outcome Measures	Impact
Reaction	- Rotation evaluations - Annual program evaluations - ACGME surveys of residents, fellows, and faculty - Program director surveys	- Satisfaction with rotations - Satisfaction with program - Impact on clinical learning environment - Mentorship with geriatrician	Increased: - exposure to geriatrics; interest in geriatrics - number of applicants to med-geri pathway - number of applicants to traditional geriatric fellowship
Learning	- Written knowledge examination - Multi-source feedback (MSF), Direct observation, Simulation, Mini CEX, OSCE, Board exams	- Geriatric CAQ/Board Pass Rates - Presence of geriatrics teaching in core curriculum	- Increased number of geriatrics didactics, case presentations, journal clubs and other learning activities in core IM/FM program - Improved knowledge of geriatrics principles
Behavior	- Milestone reports - Attainment of geriatric EPAs	Level of achievement on Milestones Reports	Greater competence in geriatric care

	• 360 degree surveys, self-assessment, chart audit, quality measure performance	• Attainment of geriatric EPAs	• Improved patient care
Results	• Written knowledge examination • Post-training practice	• Fellow attainment of CAQ/board certification in geriatrics • Fellow practicing geriatrics after training	• Increased number of practitioners with geriatric expertise

H. Timeline:

Year 1: 2020
- Med-Geri Leadership Team Established
- Review pilot program proposals in accordance with outlined criteria. Pilot programs agree to the activities/assessments in this proposal. Pilot program sites must be in good standing with continued accreditation. Select programs for pilot
- Pilot programs map geriatric milestones, competencies, and EPA's to existing rotations for evaluation and select evaluation tools in accordance with outlined criteria.
- Pilot programs submit specific, detailed plans to AIRE for review, along with supporting letters from key leadership from their department and institution.

Year 2: 2020-2021
- Recruitment for Medicine-Geriatrics Integrated Residency and Fellowship
- Match into Medicine-Geriatrics Integrated Residency and Fellowship
- First group of residents begin training

Year 3-6: 2021-2025
- Pilot programs report data to Med-Geri Leadership Team
- Med-Geri Leadership Team meets bi-annually to review data including ABIM and ABFM Board Pass rates, number of med-geri pathway participants completing geriatric fellowship, Geriatric CAQ/board pass rate, career paths and leadership positions of graduating fellows
- As additional pilot sites are developed, those sites would also submit appropriate documents to Med-Geri Leadership Team for review and to AIRE for ultimate approval.

Table 4 - Comprehensive Timeline

Innovation Implementation and Monitoring	Each box = 3 months on an academic calendar: Jul-Sep, Oct-Dec, Jan-Mar, April-Jun																							
	Year 1 2020				Year 2 2020-21				Year 3 2021-22				Year 4 2022-23				Year 5 2023-24				Year 6 2024-25			
Form Med-Geri Leadership Team	x																							
Select pilot programs, 2-4, largely with existing med-geri tracks		x																						
Review institutional resources, curriculum and assessment methods of pilot programs. Submit detailed proposal to AIRE for individual pilot programs.			x	x																				
Recruit and match first group of trainees						x	x																	
Trainees participate in med-geri pathway									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Med-Geri Program Director collects outcome measures									x		x		x		x		x		x		x			x
Med-Geri Leadership Team reviews composite data, program survey results, and monitors for continual process improvement										x				x				x						x
Ongoing recruitment and matching of trainees									x	x			x	x			x	x			x	x		
Recruit additional institutions to participate in pathway at American Geriatrics Society meeting.										x				x				x						x
First trainees graduate med-geri pathway																								x
Med-Geri Leadership Team reviews and assists with AIRE proposals for implementing pathway at individual institutions										x				x				x						x

I. Description of the Measures:

Measures are based on this proposal's stated goals and objectives. Description of the measurable outcomes and frequency of measures are listed below in Table 5.

Table 5 – Description of Measures

Objective	Measurable Outcome	Frequency of Measurement
Obj 1.1: Recruit more medical students into PGY1 training slots that result in completion of geriatric fellowships.	Number of trainees matched into Medicine-Geriatrics Integrated Residency and Fellowship.	Annually
Obj 1.2: To improve the proficiency of residents in geriatric competencies and enhance visibility of and exposure to geriatrics during residency	Number of times med-geri trainees present geriatric education topics to peers. Number of traditional residents that apply for geriatric fellowship	Annually
Obj 2.1: Engage residents in career development planning.	Completion of career development planning during semi-annual review for PGY1-PGY4 trainees. Completion of individual learning plan at end of PGY3 year.	Semi-annually Annually
Obj 2.2: Increase practice of geriatric medicine after fellowship.	Number of fellows with successful completion of geriatric CAQ/ medicine boards. Number of graduates taking care of older adults in clinical practice	Annually
Obj 3.1: Increase scholarly achievement.	Number of posters, presentations, publications completed by trainees.	Annually
Obj 3.2: Increase fellow's development of advanced skills that enable them to become future leaders.	Number of geriatrics fellows completing enhanced professional development. Type, practice, leadership positions taken, scholarship by graduating geriatrics fellows.	Annually

J. Criteria for Assessing Degree of Success:

This program will be considered successful based on meeting the measurable outcome benchmarks listed below.

Table 6 - Process Evaluation Benchmarks

Objective	Measurable Outcome	Benchmark / Target
Obj 1.1: Recruit more medical students into PGY1 training slots that result in completion of geriatric fellowships.	Number of trainees matched into Medicine-Geriatrics Integrated Residency and Fellowship.	Two trainees during year one of implementation (total) As number of programs grow, overall fill rate for medicine-geriatrics programs to exceed traditional fellowship fill rate (>50%).
Obj 1.2: To improve the proficiency of residents in geriatric competencies and enhance visibility of and exposure to geriatrics during residency	Number of times med-geri trainees present geriatric education topics to peers. Number of traditional residents that apply for geriatric fellowship.	Each trainee should present geriatrics case, educational topic or geriatric journal club at least yearly. Increase number of traditional residents that apply for geriatric fellowship.
Obj 2.1: Engage residents in career development planning.	Completion of career development planning during semi-annual review for PGY1-PGY4 trainees.	100% completion of career development mentorship and planning with trainees semi-annually during their review. 100% completion of individual learning plan at end of PGY3 year.
Obj 2.2: Increase practice of geriatric medicine after fellowship.	Number of fellows with successful completion of geriatric medicine boards.	100% completion of geriatric medicine boards. 90% of graduated fellows will pass geriatrics boards.
Obj 3.1: Increase scholarly achievement.	Number of posters, presentations, publications completed by trainees.	All geriatrics fellows will have completion of at least one scholarly activity by graduation. Pre-post measurements will show increase in scholarly activity.
Obj 3.2: Increase fellow's development of advanced skills that enable them to become future leaders.	Number of geriatrics fellows completing enhanced professional development. Type, practice, leadership positions taken by graduating geriatrics fellows.	80% of geriatrics fellows will participate in enhanced professional development. 25% of graduating fellows will have leadership roles in clinical settings as medical directors, health system leaders, and/or geriatrics educators or meaningful research/scholarship by 5 years after graduation,

Table 7 – Impact Evaluation Benchmarks

Impact	Measurable Outcome	Benchmark / Target
Reaction - Increased exposure to geriatrics; Increased interest in geriatrics	Satisfaction with program	ACGME Annual Program Survey results improve pre/post.
Learning - Improved knowledge of geriatrics principles	Board Pass Rates	100% completion of IM/FM boards, 90% pass rate of Geriatrics board.
Behavior - Improved patient care	Level of achievement for Milestones Reports	100% achieve "proficient individual" in all milestones with growing number achieving "expert physician" level of competency
Results - Increased number of practitioners with geriatric expertise	Fellow attainment of Certificate of Added Qualification in geriatrics Fellow practicing geriatrics after training	100% attempt geriatric medicine boards; 90% of graduated fellows will pass geriatrics boards. At least 50% of graduating fellows will take care of older adults in clinical practice. 25% of graduating fellows will have leadership roles as certified medical directors, health system leaders, geriatrics education by 5 years after graduation.

K. Applicability:

This innovation utilizes three major tools to accomplish its stated goals: (1) capitalizing on synergy in training requirements; (2) competency-based trainee assessment; and (3) integration of specialty learning early in training to deepen learning through an iterative process. These methods can be applied more broadly in graduate medical education. This proposal employs the resultant flexibility in training time to focus on enhanced professional development because of the training imperatives of the geriatric workforce. This was determined by an assessment of the training needs of future geriatricians. In other specialties or sub-specialties this flexibility may lend itself to changing length of training time or for other goals based on the specific needs of the trainees.

Appendix
Table 1. Sample Block Rotations

Rotation	Description	Examples	IM/FM Overlap Requirements	
Inpatient geriatrics	Inpatient services for older patients	Inpatient Geriatrics Geriatrics Consults	**Geriatrics Requirement:** IM - Residents are required to have at least one assignment in geriatric medicine.	**Geriatrics Requirement:** FM - Residents must have at least 100 hours (or one month) or 125 patient encounters dedicated to the care of the older patient.
Ambulatory Care	Outpatient services for older patients	Geriatrics Primary Care Memory Care Clinic Family Medicine Center to the Elderly PACE Adult day health	**Inpatient Requirement:** IM - Minimum of ⅓ time should be spent inpatient	**Inpatient Requirement:** FM - Residents must have at least 600 hours (or six months) and 750 patient encounters dedicated to the care of hospitalized adult patients with a broad range of ages and medical conditions. Residents must provide care to hospitalized adults during all years of the program.
Home Care	Care provided in home setting for older patients	Home-based Primary Care Home Hospice Care Assisted Living Home Visits Certified Home Health Agency	**Ambulatory and Home Care Requirement:** IM - Residents are required to have minimum ⅓ of their training in ambulatory setting, work effectively in various healthcare delivery settings	**Ambulatory and Home Care Requirement:** FM - Expected to work in various outpatient settings, including the Family Medicine Practice (FMP) site
Nursing Home	Care provided in Skilled Nursing Facility	Sub-acute Rehab Long Term Care Panel Chronic Care Hospital		
Relevant Electives	Electives that advance key geriatric competencies	Palliative Care Orthopedics Co-Management Osteoporosis /Fragility Fracture Neurology Stroke Service Rheumatology Psychiatry Physiatry Urogynecology Research	**Subspecialty and Elective Requirements** IM - Required to have exposure to each of the internal medicine subspecialties and neurology, must have opportunities for experience in psychiatry, allergy/immunology, dermatology, medical ophthalmology, office gynecology, otorhinolaryngology, non-operative orthopedics, palliative medicine, sleep medicine, and rehabilitation medicine.	**Subspecialty and Elective Requirements** FM - Required to provide end-of-life care. Residents must have at least 300 hours (or three months) dedicated to elective experiences.

Table 2. Sample Longitudinal Rotations

Rotation	Description	Examples	IM/FM Overlap Requirements	
Continuity Clinic	Continuity longitudinal care to older patients in clinic setting coordinating implementation of other medical specialties and consultants	Geriatrics Primary Care Family Medicine Center to the Elderly	**Continuity Clinic Requirement** IM: Longitudinal continuity experience in which residents develop a continuous, long-term therapeutic relationship with a panel of general internal medicine patients, should minimize inpatient / outpatient conflict, resident must be primary physician managing chronic diseases, minimum of 130 distinct half-day outpatient sessions, extending at least over a 30-month period	**Continuity Clinic Requirement** FM: Residents must be primarily responsible for a panel of continuity patients, integrating each patient's care across all settings, including the home, long-term care facilities, the FMP site, specialty care facilities, and inpatient care facilities. Long term care experiences must occur over a minimum of 24 months. Residents must provide care for a minimum of 1650 in person FMP patient encounters in the outpatient setting (including FMP sites, nursing home, and home visits); majority of these visits must occur in resident's FMP site with 165 occurring in patients younger than 10 and 165 occurring in patients older than 60.
Home Care or Hospice Panel	Continuing longitudinal experience for older patients in home care or hospice panel.	Home Based Primary Care Home Hospice		
Long Term Care	Continuity longitudinal experience in long term care.	Nursing home: SAR/LTC Day-care or day-hospital centers, life care communities, or residential care facilities		

Table 3 – Potential Assessment Methods: Italicized measures must be completed; * measures are strongly recommended if available

Core Competency	Assessment Method(s)	Evaluator(s)
Patient Care	Multisource feedback (MSF), Mini-CEX, *direct observation*, simulation*, *faculty global ratings form*, peer evaluations, self-assessment	Nurses, Medical assistants, Social Workers, Interprofessionals, Faculty members, Self, Peers, Clinical Competency Committee
Interpersonal Communication Skills	*MSF*, Mini-CEX, *direct observation*, simulation*, *faculty global ratings form*, peer evaluations, self-assessment	Nurses, Medical assistants, Social Workers, Interprofessionals, Faculty Members, Peers, Clinical Competency Committee
Professionalism	Teaching evaluations, *MSF*, Mini-CEX, *direct observation*, simulation, *faculty global ratings form*, peer evaluations, self-assessment	Nurses, Medical assistants, Social workers, Interprofessionals, Faculty members, Peers, Learners, Clinical Competency Committee
Systems Based Practice	*MSF*, Mini-CEX, *direct observation*, simulation, *faculty global ratings* form, peer evaluations, self-assessment, *audit and performance data*	Nurses, Medical assistants, Social Workers, Interprofessionals, Faculty Members, Competency Committee, Peers, Self
Practice Based Learning and Improvement	Quality improvement evaluation tool, *faculty global ratings form, audit and performance data*	Faculty Members, Clinical Competency Committee, Self
Medical Knowledge	In-training exam*, *direct observation*, *faculty global ratings form*, peer evaluations, self-assessment	Faculty Members, Clinical Competency Committee, Self

Table 4 - Mapping Geriatric Competencies for IM/FM Residents with Curricular Milestones and EPAs for Graduating Geriatric Fellows

Minimum Geriatric Competencies for IM/FM Residents[*]	Curricular Milestones for Graduating Geriatric Fellows	Geriatrics End-of Training Entrustable Professional Activities (EPAs)
Complex or Chronic Illness(es) in Older Adults (8-14) · Sensory impairment · Age-related changes · Preserving function · Medication adverse events · Atypical presentation Ambulatory Care (#23-26) · Falls · Bowel/bladder dysfunction · Driving safety/abuse · Screening/ chemoprophylaxis	Caring for the Elderly Patient (CEP) Communication (#1-7) CEP Gerontology (#8,9) CEP Diseases in Older Adults (#17-20) CEP Complex Illness(es) and Frailty in Older Adults (#21-26) CEP Functional Impairment and Rehabilitation (#14-16) Systems-Based Care for Elderly Patients (SBC): Ambulatory Care (#45-46) SBC Home Care (#47-48) SBC Long Term Care and Nursing Home Care (#49-51)	1. Provide patient centered care that optimizes function and/or well-being
Complex or Chronic Illness(es) in Older Adults (8-14) · Capacity Assessment · Discuss goals of care · Incorporate goals of care into treatment plan	CEP: Diseases in Older Adults, Complex Illness(es) and Frailty in Older Adults (#17-26) CEP Communication (#1-7)	2.Prioritize and manage the care of older patients by integrating the patient's goals and values, co- morbidities and prognosis into the practice of evidence-based medicine.
Complex or Chronic Illness(es) in Older Adults (8-14) · Advance care planning · Goals of care	CEP Communication (#1-7)	3.Assist patients and families in clarifying goals of care and making care decisions.
Cognitive, Affective, and Behavioral Health (34-7) · Delirium · Dementia · Depression · Substance abuse	Geriatric Syndromes (GS): Cognitive, Affective, and Behavioral Health (#55-62) GS Falls and Dizziness (#52-54) GS Pressure Ulcers (#63-65) GS Hearing and Vision Disorders (#67-68) GS Urinary Incontinence (#69-71)	4.Prevent, diagnose and manage geriatric syndromes.

Ambulatory Care (#23-26) · Falls · Bowel/bladder dysfunction Hospital Patient Safety (#17-20) · Delirium · Inappropriate prescribing · Constipation · Pressure ulcers	GS Weight Loss and Nutritional Issues (#72-74) GS Constipation and Fecal Incontinence (#75-76)	
Medication Management (#1-3) · Appropriate prescribing · Adverse events · Benefits/risks · Medication review/ reconciliation	Caring for the Elderly Patient (CEP): Medication Management (#10-13)	5.Provide comprehensive medication review to maximize benefit and minimize number of medications and adverse events
Palliative and End-of-Life Care (#15-16) · Symptom management · Goals of care	CEP: Palliative and End of Life Care (#27-28) CEP Communication (#1-7)	6.Provide palliative and end-of -life care for older adults.
Transitions of Care (#21-22) · Hand-offs · Discharge planning · Team communication	SBC General: Demonstrate expertise in transitions of care (#30, 31) CEP Communication (#1-7)	7.Coordinate healthcare and healthcare transitions for older adults with multimorbidity and multiple providers.
Hospital Patient Safety (#17-20) · Delirium · Limiting restraint/foley use · Hazards of hospitalization · Inappropriate prescribing · Constipation · Pressure ulcers	CEP Communication (#1-7) CEP Diseases in Older Adults (#17-20) CEP Complex Illness(es) and Frailty in Older Adults (#21-26) CEP Gerontology (#8,9) CEP Functional Impairment and Rehabilitation (#14-16) SBC General (#29-41) SBC Hospital Care (#42-44)	8.Provide geriatric consultation and co-management.
	CEP Communication (#1-7)	9.Skillfully facilitate a family meeting.

Transitions of Care (#21-22) · Hand-offs · Discharge planning · Team communication	CEP Communication (#1-7)	10. Collaborate and work effectively as a leader or member of an interprofessional health care team.
	CEP Diseases in Older Adults (#17-20) SBC General (#29-41)	11. Teach the principles of geriatric care and aging-related health care issues to professionals, patients, families, health care providers and others in the community.
	SBC General (#29-41)	12. Collaborate and work effectively in quality improvement and other systems-based initiatives to assure patient safety and improve outcomes for older adults

*Williams B, et al. (2010). Medicine in the 21st century: Recommended essential geriatrics competencies for Internal Medicine and Family Medicine residents. *Journal of Graduate Medical Education, 2(3)*, 373-383. Also available at http://www.jgme.org/doi/abs/10.4300/JGME-D-10-00065.1

Table 5: Monitored Outcomes by Medicine-Geriatrics Integrated Residency and Fellowship

	Number of applicants for Med-Geri pathway	Number of spots offered/ filled	Number trainees who complete Med-Geri pathway	Number of applicants for traditional geriatrics fellowship	Number of Med-geri trainees took/ passed CAQ/ boards	Type of practice of Med-geri graduates	Leadership positions of Med-geri graduates
Year 1							
Year 2							
Year 3							
Year 4							

Sample survey for IM/FM Program directors (PD):
Rate/describe impact of the medicine-geriatric integrated residency and fellowship on:
1. Number of applications to residency
2. Training experience for participating trainees
3. Exposure to geriatrics for non-participating residents
4. Administrative burden
5. Benefits
6. Drawbacks

Sample survey for Geriatric Fellowship PD with medicine-geriatric integrated residency and fellowship on:
Rate/describe impact of med-geri integrated pathway on:
1. Number of applications to geriatric fellowship
2. Visibility/presence of geriatrics in core residency program
3. Administrative burden
4. Benefits
5. Drawbacks
6. Innovations resulting from med-geri pathway