1 **Accreditation Designation Proposal**
2
3 **Sponsoring Institution-Based Fellowship**
4 **in Health Care Administration, Leadership, and Management**
5
6 ## I. Executive Summary
7
8 This proposal requests that the Accreditation Council for Graduate Medical Education
9 (ACGME) begin to provide accreditation for Sponsoring Institution-based fellowship programs
10 for physicians in health care administration, leadership, and management (HALM). The
11 accreditation of such fellowships will improve health care and population health by providing a
12 formal graduate medical education (GME) pathway for physicians to acquire knowledge, skills,
13 attitudes, and exposures that are associated with competent physician executives in a variety of
14 health care settings.
15 ACGME accreditation designation for HALM fellowships will address the demand for a
16 competent workforce of physician leaders through the establishment of formal programs based
17 on a defined body of knowledge that covers the broad, system-based leadership needs of
18 health care environments, including those related to patient care as well as other health system
19 administrative and management needs. Some examples of content areas that will be
20 addressed by the fellowship include patient care operations, health system finance, patient
21 safety, quality improvement, health equity, population health management, efficiency, finance,
22 business development, human resource management, information technology, and health care
23 innovation. The fellowship will provide preparation for a variety of health system roles, including,
24 but not limited to, those of the chief executive officer, president, chief medical officer, physician
25 practice plan executive, chief quality or patient safety officer, and medical director of various
26 health care service lines (inpatient and outpatient) .
27 By combining immersive rotations with longitudinal projects, mentorship, and an
28 underlying curricular framework, fellowship programs will educate physicians to ensure their
29 competency in leading changes to health care delivery through the effective administration and
30 management of health systems. Fellowship programs will have a duration of two years—with
31 potential for a one-year option for fellows with prerequisite experience—andwill include core and
32 elective experiences in a format that allows for customization based on individualized learning
33 goals. Sponsoring Institutions will have opportunities to design didactic education and scholarly
34 activities that develop fellows' practical skills and facilitate the achievement of organizational
35 goals. Fellows may have opportunities to obtain a master's-level degree (e.g. master's in
36 business administration (MBA), master's in medical management, or master's in health service
37 administration (MHSA, MMM, or MHA)) or a certificate while satisfying requirements for
38 completing the fellowship. Fellows will have options to engage in unsupervised clinical practice
39 in their specialty or subspecialty to ensure their continued professional development outside the
40 scope of the fellowship.
41 As standardized graduate medical education programs, it is anticipated that over time
42 the fellowships will become part of a more consistent and standard pathway for the promotion
43 and retention of a defined workforce of physician leaders. While focused on physician
44 leadership, fellowships will offer multidisciplinary education that is aligned with emerging models

of interprofessional health care leadership competencies. The fellowship will be designed to facilitate organizations' development of leadership teams that share a common approach to effective and efficient health systems management.

II. Introduction

The Accreditation Council for Graduate Medical Education (ACGME) monitors trends in physician education to better understand how organizations prepare residents and fellows for practice in a variety of health care environments. Observing that physician leaders are increasingly expected to possess a broad range of knowledge, skills, attitudes, and exposures in health care administration, leadership, and management (HALM),[1,2,3] the ACGME began to explore the potential for its accreditation process to acknowledge the development of graduate medical education (GME) programs in which physicians attain competencies that are associated with these emerging expectations. The programs of interest would provide focused and intensive education for physicians in preparation for a variety of executive roles within health systems.

The ACGME conducted a preliminary assessment of emerging needs for this type of education, and related opportunities for ACGME accreditation. A purposive sample of 29 individuals provided their insights in a series of 30-minute interviews with staff members of ACGME's Department of Sponsoring Institutions and Clinical Learning Environments between July 8 and September 5, 2019. Interviewees were selected for their experience and knowledge of HALM from a health system or educational perspective; and for their representativeness of a range of GME stakeholders including health system and medical school executive leaders, organizational leaders, designated institutional officials (DIOs), faculty members, recently graduated residents/fellows, and key ACGME staff members.

Building on insights from this preliminary assessment, ACGME staff members recommended the appointment of an advisory work group to develop a proposal for ACGME designation for accreditation of fellowships in HALM. The ACGME staff recommendations were approved by the Executive Committee of the ACGME Board of Directors at its November 23-24, 2019 meeting.

Based on the recommendations, the Board asked ACGME staff to convene an advisory group composed of GME and clinical executive leaders within ACGME-accredited Sponsoring Institutions to develop this accreditation designation proposal based on the preliminary assessment and other available information. The advisory group was co-chaired by Carolyn Clancy, MD, Assistant Under Secretary for Discovery, Education, Affiliate Networks, Veterans Health Administration; and Karen Nichols, DO, Chair, ACGME Board of Directors. A complete list of members of the advisory group is provided in Attachment 1.

To support the advisory group's preparation of the proposal, the ACGME's Department of Sponsoring Institutions and Clinical Learning Environments conducted additional stakeholder interviews, gathered relevant reference materials, and obtained feedback from DIOs of ACGME-accredited Sponsoring Institutions.

Prior to the submission of this proposal, the advisory group worked in collaboration with ACGME staff members, the ACGME Board of Directors, and the ACGME Board's Policy Committee to develop a new policy establishing criteria for the designation of Sponsoring

Institution-based fellowships for which accreditation will be offered.[4] The proposal has been structured to demonstrate that the Sponsoring Institution-based fellowship in HALM meets all criteria for accreditation designation under the new ACGME policy. After addressing the criteria for accreditation designation, the proposal provides additional recommendations related to the accreditation of the Sponsoring Institution-based HALM fellowship.

The advisory group respectfully submits this accreditation designation proposal, which has been reviewed by Thomas J. Nasca, MD, President and Chief Executive Officer of ACGME, to the ACGME Board of Directors for its consideration.

III. Institutional Fellowship in Administration, Leadership and Management

A. Improving Clinical Care and Patient Safety, and Addressing Population Health

"The clinical care and safety of patients and populations will be improved through the designation of the proposed fellowship." (ACGME Policies and Procedures, Section 11.30.a)

There is a growing body of evidence that skilled physician executives make positive contributions to various aspects of patient care, including patient safety, health care quality, care management, and systems of care (e.g., service and product lines) (Attachment 2).[5,6] The ACGME's Clinical Learning Environment Review (CLER) Program has identified substantial opportunities to focus on the patient safety and quality improvement activities of health care organizations within GME programs.[7] Sponsoring Institution-based fellowships in HALM will respond to health system needs by preparing physicians to oversee and enhance the care provided to patients and populations. As they learn to manage care at the organizational level, HALM fellows will gain experience in leading systematic efforts to achieve health equity goals, such as improving health care accessibility and availability, enhancing cultural competency in health care settings, eliminating disparities in health care processes and outcomes, and addressing social determinants of health.

HALM fellowship programs will include experiential and didactic education that integrates medical knowledge with health systems science, allowing fellows to develop their ability to manage patient care operations safely across medical specialties and health care professions. Consistent with the Quadruple Aim,[8,9] Sponsoring Institution-based fellowships in HALM will be expected to follow a balanced approach to health care quality and safety that optimizes the improvement of population health, health care consumer experience, and provider well-being while reducing health care costs.

At a minimum, all HALM fellows will be expected to attain competencies in essential aspects related to the administration of complex health care organizations. Under faculty supervision, fellows will obtain practical experience working with individuals and business units that have broad responsibility for health care, workforce, and public safety in health care settings. Programs may provide fellows with opportunities to develop skills in a range of participating sites that may include, but are not limited to, for-profit and not-for-profit hospitals, community-based centers, and government-operated facilities.

132 Mentorship of fellows by the program director and other faculty members will provide a
133 structure for patient safety and quality improvement skills development and assessment over
134 the duration of the fellowship. Fellows will gain experience through rotations in the offices of
135 health care executives and other administrative and operational departments of hospitals, health
136 systems, or clinics. In these settings, fellows will learn how to manage institutional systems that
137 are critical to the promotion of patient safety, such as those related to event reporting, event
138 investigations, care transitions, and patient safety education.[10,11]
139 These rotations will also build fellows' skills in managing quality improvement processes.
140 The rotation settings will train fellows to provide leadership of organizational quality
141 improvement activities in alignment with strategic goals, and through interprofessional team
142 collaboration. Fellows will learn techniques for measuring health care quality through the
143 effective use of institutional, population-level data to drive performance improvement and to
144 reduce health care disparities.
145 The HALM fellowships will be required to design experiences that assure that physicians
146 assume progressive responsibility for hospital projects across different areas of the health care
147 operations. Fellowship requirements will need some degree of flexibility to customize the
148 learning experience to that of both the fellows' career goals as well as the sponsoring health
149 care system's needs for physicians trained in HALM.
150 Didactic education will anchor fellows' experiences in theoretical and practical
151 knowledge that will be relevant to their subsequent leadership roles. Local, regional, and/or
152 national educational programming will introduce fellows to foundational concepts of health
153 systems science and other relevant disciplines. Fellowship programs may also include master's-
154 level coursework and project-based learning, certificates, or other components that emphasize
155 institutional leadership in patient safety, health care quality, and the management of health care
156 and health systems.
157
158 **B. Body of Knowledge**
159
160 *"[There is] a body of knowledge underlying the proposed fellowship that is (i) distinct*
161 *from other areas in which accreditation is already offered, and (ii) sufficient for providing*
162 *educational experiences that promote the integration of clinical, administrative, and*
163 *leadership competencies that address the broad system-based needs of health care*
164 *environments." (ACGME Policies and Procedures, Section 11.30.b)*
165
166 The emerging, multidisciplinary field of health systems science will provide the
167 framework for integrating clinical, administrative, and leadership competencies that are
168 associated with the Sponsoring Institution-based fellowship in HALM (Attachment 2). The
169 American Medical Association has identified health systems science as an essential component
170 of medical education and has recognized the importance of this field by promoting its inclusion
171 in medical education curricula and supporting the publication of a comprehensive textbook that
172 addresses health systems science topics.[12,13] While it is recognized that the complex nature of
173 health systems science education is appropriate for the later years of medical education, health
174 systems science curricula have not yet been widely adopted in GME programs, in part due to a
175 lack of formal academic infrastructure and support from accreditation agencies.[14]

176 The Sponsoring Institution-based fellowship in HALM represents a unique body of
177 knowledge that will address the system-based needs of health care environments. Its underlying
178 focus areas will include:
179

180 - Leadership in patient safety and quality improvement
181 - Efficiency and effectiveness of health care delivery
182 - Health systems governance
183 - Workforce education to meet system-wide needs
184 - Teaming
185 *(includes interprofessional clinical and administrative environments, collaborative*
186 *leadership, and followership)*
187 - Health care management
188 *(e.g., patient care experience; risk management; human resource management;*
189 *diversity, equity, and inclusion; case management; crisis/disaster management; and*
190 *health care ethics)*
191 - Health care financing
192 *(e.g., payors, payment models, utilization review, value-based care, GME financing)*
193 - Health equity and population health management
194 *(e.g., health care accessibility and availability, health and health care disparities,*
195 *workforce cultural competency, social determinants of health)*
196 - Business of health care
197 *(e.g., return on investment, interpretation of balance sheets, budgeting, procurement,*
198 *market research, business plans, clinical affiliations, clinical networks, public relations,*
199 *marketing, branding)*
200 - Health care policy, law, and advocacy
201 *(at local, state, tribal, and federal levels)*
202 - Health information technology
203 *(e.g., health information exchanges, meaningful use of electronic medical records, data*
204 *management)*
205 - Organizational psychology
206 *(e.g., interpersonal communication, group dynamics, emotional intelligence, change*
207 *management, motivating/inspiring employees, conflict resolution, negotiation)*
208 - Strategic planning, workforce development, and health systems engineering
209 - Care innovation
210 *(e.g., non-traditional settings and methods, patient-centered care)*
211

212 Representing essential knowledge for physician leaders of health care organizations,
213 these focus areas integrate learning from medicine, business, public health, communication,
214 computer science, economics, law, and other disciplines in a singular educational program. The
215 fellowship will organize these focus areas within a health systems science framework that will
216 help to define the knowledge and skills required of physician executives, and the academic
217 structures and boundaries of the fellowship.

The Sponsoring Institution-based fellowship in HALM is distinct from any other type of program that is currently accredited by the ACGME. Some elements of experiential learning in health care administration, management, and leadership are currently included as minor curricular components of some ACGME-accredited programs. Chief residencies and fellowships in clinical informatics are examples of GME that may incorporate some of the relevant knowledge areas. These opportunities, which are designed to develop leadership, administration, and management skills within clinical departments and specialties, contrast with the Sponsoring Institution-based fellowship, which is multidisciplinary and is not identified with individual clinical specialties. The fellowship's basis in health systems science distinguishes it from specialty-based education, in that it requires experience across various clinical, administrative, and operational areas of the health system, and involves learning with various types of health care leaders.

C. Physician Workforce

"[There is] a sufficiently large group of physicians to apply the knowledge and skills of the proposed fellowship in their health care environments." (ACGME Policies and Procedures, Section 11.30.c)

It is estimated that there are 10,000 or more physician executives who are actively applying knowledge and skills in the practice of HALM in hospitals, community-based settings, health systems, and other organizations. There are 6,146 hospitals in the United States,[15] each of which has a chief medical officer, medical director, or equivalent position. It is common for hospitals to employ physicians in additional leadership capacities such as chief executive officers, chief quality officers, and chief medical information officers (i.e., functions of the "C-suite"). If 5 percent of hospital leaders are physicians, as the American Association for Physician Leadership (AAPL) has estimated,[16] then there are more than 300 physician chief executive officers (or equivalent) in the United States. In 2019, there were 425 physician leaders of accountable care organizations (ACOs).[17] Career opportunities also abound in the more than 600 health systems in the US,[18] which are typically led by a system physician executive.[19] Turnover in health care executive positions is high, and has been attributed to rapid change in the health care environment and the aging of the workforce, necessitating a renewed focus on leadership development within organizations.[20] Sponsoring Institutions may wish to consider developing accredited HALM fellowships as part of workforce pathways for the professional formation of executive leaders.

While the Sponsoring Institution-based fellowship in HALM provides preparation for a range of leadership positions, there exists a common set of knowledge and skills that all physician leaders must possess in order to effectively balance sound organizational management with the pursuit of clinical excellence.[21] Corporatization of the US health care system continues to accelerate, challenging many traditional aspects of medical practice for physicians.[22] This trend has highlighted the need for skilled physicians who can lead large-scale, rapid organizational change and address its effects on clinical practice and personnel.

As the US health care system evolves, there is increasing recognition that the discipline of HALM must be compatible with an emerging model of interprofessional health care

262 leadership, such as transformational leadership competencies that have been developed for
263 nurse executives.[23,24,25] Fellows will be prepared to function as leaders in current and future
264 health care environments by learning to lead and manage physicians and other staff members,
265 as well as to collaborate effectively with leaders from a variety of professions and educational
266 backgrounds.
267
268 **D. Professional Societies**
269
270 *"[There are] national medical or medical-related societies with substantial physician*
271 *membership, and with a principal interest in the proposed fellowship." (ACGME Policies*
272 *and Procedures, Section 11.30.d)*
273
274 The American Association for Physician Leadership (AAPL) and the American College of
275 Health care Executives (ACHE) have been identified as two professional societies with
276 substantial physician membership and with a principal interest in the proposed fellowship.
277 The AAPL—formerly named the American College for Physician Executives (ACPE)—
278 has offered education, career development, and other services for physicians in the United
279 States since 1975.[26] In addition to providing a Certified Physician Executive (CPE) credential,
280 the AAPL has collaborated with universities to create master's degree programs for physicians
281 and delivers a variety of continuing medical education courses for physician executives. The
282 AAPL has approximately 10,000 active physician members internationally, including chief
283 executive officers, chief medical officers, vice presidents of medical affairs, and others. The
284 AAPL publishes the *Physician Leadership Journal*, *The Journal of Medical Practice*
285 *Management*, and books for physician leaders in print and electronic format.
286 For 85 years, the ACHE has focused on the professional advancement of health care
287 leaders in the United States.[27] To recognize leadership in health care management, the ACHE
288 provides the Fellow of the ACHE (FACHE) credential. The ACHE offers online seminars,
289 webinars, courses, and other learning activities. Networking, additional education, and career
290 development activities are organized through local chapters. The ACHE's international
291 membership of 48,000 includes a substantial number of physicians. While many of ACHE's
292 resources and services are available to health care leaders across professions, there are
293 dedicated online resources for physician members, including a physician executives forum.
294 ACHE established a foundation that provides a large annual congress on health care leadership
295 and operates a publishing imprint for health services management books and journals.
296
297 **E. Educational Programs and Research Activities**
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299 *"[There are] academic units or health care organizations of educational programs and*
300 *research activities such that there is national interest in establishing fellowship*
301 *programs." (ACGME Policies and Procedures, Section 11.30.e)*
302
303 There are a number of educational programs and scholarly pursuits with varying scope
304 and goals that are somewhat related to the proposed HALM fellowship. There is little
305 consistency across these types of educational programs and few are anchored in a structured,

306 mentored clinical experience. The accreditation designation of a Sponsoring Institution-based
307 fellowship in HALM would provide an important advancement in providing a standardized
308 approach to such training, and in creating the structure needed to optimize available learning
309 resources that support the development of future physician leaders.
310 Presently, there are formal and informal models for physician learning in HALM. While
311 efforts to develop physician leaders are common in health care organizations, there are few
312 examples of educational programming that is focused on institution-based learning and based
313 on structured curricula. Thus, skills development in HALM is idiosyncratic to the institution in
314 which a physician practices.
315 The absence of a commonly defined structure for GME in HALM has limited health care
316 organizations' ability to recruit, train, and retain proven physician leaders in an efficient or
317 consistent manner. Some residents have observed that learning related to health systems
318 leadership is lacking within GME,[28] and others have called for the creation of a national
319 curriculum to address physician leadership needs in hospitals and health systems.[29] A
320 fellowship model with a foundation of active and project-focused learning has the potential to
321 advance organizational priorities while satisfying the developmental needs of the physician
322 executive workforce.[30]
323 In October 2020, ACGME staff members surveyed DIOs (n=119) in a poll after
324 presenting an overview of the proposed Sponsoring Institution-based fellowship in HALM during
325 a scheduled video conference meeting (Attachment 3). Most of the DIO survey respondents
326 (65%) reported that their Sponsoring Institutions have an academic unit or health care
327 organizational partner that offers some type of training for physicians in health care
328 administration, management, and leadership. Only 13% of DIO survey respondents strongly
329 agreed that existing training programs were meeting the needs of their Sponsoring Institutions'
330 participating sites.
331 Already-existing educational opportunities include at least one nonaccredited, highly
332 structured, Sponsoring Institution-based fellowship program for physicians at Johns Hopkins
333 Medicine that incorporates many of the skills identified above.[31,*] Some health care
334 organizations have created episodic or short-term educational programming (e.g., courses)
335 related to leadership, and others have organized leadership seminars (e.g., "fireside chats" with
336 health care executives). As described above, AAPL and ACHE are professional organizations
337 that provide continuing medical education and a wide variety of other educational resources that
338 are available to physician leaders in health care organizations.
339 A number of other organizations organize related learning opportunities. The American
340 Association of Colleges of Osteopathic Medicine provides leadership training through the Senior
341 Leadership Development Program and the Graduate Medical Education – Leadership
342 Development Program as well as other related programs.[32] The Association of American
343 Medical Colleges provides leadership courses for deans, department chairs, and chief medical
344 officers.[33] The Institute for Health care Improvement also hosts programs and other educational
345 opportunities for clinical leaders.[34]

[*] In addition to serving as program director of this fellowship, Dr. Sanjay Desai is a member of the advisory group that developed this proposal.

346 In the preliminary assessment that preceded this proposal, interview participants
347 reported that existing physician leadership development within organizations did not adequately
348 prepare residents and fellows to fulfill job responsibilities associated with health systems
349 administration, management, and leadership. This echoed a similar finding from ACGME's
350 *Sponsoring Institution 2025* report that "physicians' team leadership skills were . . . variable, and
351 some physicians had not received training related to their team leadership roles."[35] Interview
352 participants indicated that junior physician leaders in their organizations have reported a lack of
353 knowledge and understanding of finance, management, population health, and other topics.
354 Some participants reported that physicians sometimes assume health system leadership roles
355 shortly after entering unsupervised clinical practice, and that often these physicians acquire
356 skills "on the job" without having demonstrated the requisite knowledge, skills, attitudes, and
357 exposures. Participants who perceived competency gaps in HALM tended to attribute those
358 gaps to recent graduates' limited experience with business processes, and limited exposure to
359 leaders outside of their clinical departments.
360 There are a number of master's degree programs—including those in business
361 administration (MBAs), health care administration (MHAs), and medical management (MMMs)—
362 and other specialized degree- or certificate-granting programs that provide education in some
363 focus areas of the proposed fellowship, such as the business of health care, which includes
364 aspects of health care efficiency, management, and finance. Some of the master's programs,
365 including MMM and dual DO/MBA and MD/MBA programs, are aligned with physicians'
366 educational pathways. Master's programs frequently include meaningful experiential learning—
367 such as a student's capstone project—that is limited in duration and exposure, and therefore
368 does not on its own provide sufficient opportunity to attain and demonstrate competency in the
369 practice of HALM. A master's degree could reasonably be integrated with a Sponsoring
370 Institution-based fellowship program as one option for satisfying certain expectations for
371 didactic, project-based, and other learning.
372
373 **F. Projected Number of Programs**
374
375 *"[The] projected number of programs [is] sufficient to ensure that ACGME accreditation*
376 *is an effective method for quality evaluation, including current and projected numbers of*
377 *fellowship programs." (ACGME Policies and Procedures, Section 11.30.f)*
378
379 As there has been no previous survey of the GME community regarding HALM ,
380 ACGME staff members conducted a survey of DIOs in October 2020 (see Attachment 3). In that
381 survey, most respondents (87%) indicated that their Sponsoring Institutions would benefit from
382 having training opportunities for physicians in HALM. When asked to estimate their Sponsoring
383 Institution's level of interest in the fellowship, 29% of DIOs replied "very interested," 40%
384 "moderately interested," and 22% "a little interested."
385 There are 865 ACGME-accredited Sponsoring Institutions, and the DIO survey
386 suggested that many Sponsoring Institutions have existing access to training for physicians in
387 HALM. Considering early interest in the fellowship and the availability of institutional resources,
388 it is estimated that at least 30 fellowship programs will achieve accreditation within five years.
389

G. Fellowship Duration

> *"The duration of the Sponsoring Institution-based fellowship programs is at least one year." (ACGME Policies and Procedures, Section 11.30.g)*

Sponsoring Institution-based fellowships in HALM should be configured in either a one-year or two-year format. The duration of the program should be two years for fellows without prerequisite experience in HALM, with the potential for a one-year program of focused learning for fellows with prerequisite experience in HALM. The duration should reflect the amount of clinical service activity and any related options of coordinating the fellowship with matriculation in a relevant master's degree program. If accreditation designation is approved by ACGME, opportunities for innovation in competency-based educational models in the Sponsoring Institution-based fellowship in HALM should be considered.

H. Fellowship Eligibility

> *"Physicians who have completed a residency program in a core specialty designated for accreditation by ACGME are eligible to enter Sponsoring Institution-based fellowships." (ACGME Policies and Procedures, Section 11.30.h)*

Completion of a residency program in any core specialty designated for ACGME accreditation should be required for a physician to enter a Sponsoring Institution-based fellowship program in HALM. A fellowship program should ensure that physician leaders across medical specialties are eligible for appointment, provided that ongoing clinical practice opportunities in the core specialty are available to fellows while they are appointed to the program.

I. Experiential Education

> *"The educational program of the fellowship is primarily experiential." (ACGME Policies and Procedures, Section 11.30.i)*

Most of the curriculum for a fellowship in HALM should consist of experiential, or "hands-on," learning. Fellows will participate in rotations in multiple departments or divisions within health care environments, with required and elective experiences in areas such as business development, finance, human resources, quality assurance, marketing, and legal affairs. In these rotations, fellows will participate in the activities of leadership teams under the mentorship and supervision of health systems leaders. Fellows will also have progressive responsibility for day-to-day management responsibilities through focused experiences in specific units within health systems.

Scholarly activity in HALM fellowships will also have an experiential focus. Fellows will engage in capstone or similar projects that integrate knowledge from medicine and health systems science with HALM practice. Scholarly projects may be linked to the goals and objectives of rotation experiences.

Competency achievement in the fellowship will be measured with reference to the goals and objectives of these experiences. Fellows should be evaluated no less frequently than every three months using objective, competency- and Milestone-based performance evaluations based on feedback from multiple sources.

The Sponsoring Institution should provide exposure to different delivery systems and different types of participating sites (e.g., privately and publicly governed). If accreditation designation is approved, the ACGME should consider defining “core” rotations in the fellowship to ensure that physician leaders develop fundamental skills in the management of payor-provider relationships, hospital-based care delivery, community-based care delivery, health networks, health policy, and population health.

IV. Guidance for Implementation of the Sponsoring Institution-Based Fellowship

A. Careers in Health Care Administration, Leadership, and Management

The knowledge, skills, attitudes, and exposures that define competency in HALM can be applied by fellowship graduates throughout the health care system. After successful completion of a Sponsoring Institution-based fellowship, a physician will be prepared for executive positions in a variety of organizations such as hospitals, health systems, ACOs, and community-based health centers. The fellowship should provide diverse exposure to privately and publicly governed health care organizations to ensure that fellowship education prepares fellows for the complexity of health care delivery systems, while also introducing fellows to a range of career options. Some examples of common terminal titles for fellowship graduates would be chief executive officer, president, chief medical officer, physician practice plan executive, medical director, and chief quality officer.

To ensure that fellowship education will evolve with the expectations of physician executives, fellowships should be designed to account for the driving forces that are shaping this evolution, such as democratization, commoditization, and corporatization.[36] In their programs, fellows must become familiar with technologies that are democratizing care and systems that include the delivery of care in a range of community-, home-, and retail-based settings. Fellows must become competent in reducing variability in clinical performance within the health system in an increasingly commoditized health care environment. The fellowship must also emphasize human resource management to reflect the increasing need for physician leaders to oversee an increasing number of physicians and other health care professionals who are employed within corporatized health care structures. The implementation of an ACGME-accredited fellowship should account for these and other factors that are expected to influence the practice of HALM. The ACGME should continue to utilize strategic planning insights to ensure that fellowship education is aligned with the professional futures of physicians.

Entry to a Sponsoring Institution-based fellowship program in HALM should be available to qualified physicians at any point in their careers. The fellowship may be a desirable opportunity for residents whose administrative, leadership, and managerial abilities have been identified through their achievements in their residency programs. In such cases, focused, competency-based development of well-defined skills directly after completion of a core

residency program will provide foundational education at the beginning of a physician executive career pathway. The fellowship will also provide a valuable learning experience to physicians who are planning for early-, mid-, or late-career transitions to leadership roles in health care organizations. The experiential focus of the fellowship will assist such physicians in building practical knowledge and skills that will enhance their effectiveness as leaders.

B. Program Structure

As described in Section III.F above, fellowship programs should be configured in a two-year format, with the potential for a focused one-year program, and with consideration of the potential for individualized learning within an ACGME-approved competency-based educational format. The structure for fellowship programs should be based on common knowledge, skills, attitudes and exposures that define competency in health care administration, management, and leadership, and are associated with the underlying focus areas of the fellowship as described in Section III.B above.

The program should be experientially focused, and should balance immersive, shorter-term assignments, such as those available through block rotations, with longitudinal assignments over the course of the fellowship that guide fellows in focused skills development or the achievement of individual educational goals. Some types of educational experiences should be considered “core” in the fellowship. Payer-provider relationships, hospital-based health care delivery, community-based health care delivery, health policy, and population health are some examples of potential core educational experiences. The program structure should also permit opportunities to customize the fellowship to individual learning needs and practice goals through the inclusion of elective educational experiences in diverse settings, and the development of learner-specific plans, goals, and objectives.

Programs should be expected to provide didactic education in HALM that is complementary to fellows’ course of experiential learning. Fellows’ engagement in scholarly activity should be part of fellowship program design, and expectations for scholarly activity should be formalized in a capstone or similar project. While many educational experiences in the fellowship will require the physical presence of faculty members and fellows, the appropriate and effective use of distance education should be encouraged.

Fellowship programs should have the flexibility to meet some ACGME requirements for experiential and didactic education through fellows’ participation in degree- or certificate-granting activities. In determining the potential role for degree-granting programs (e.g., MBA, MHA, MMM) in fellowship programs, Sponsoring Institutions should consider the time and cost of obtaining a degree; the rigidity/flexibility of curriculum; the opportunity cost to experiential learning; the difficulty of completing a master’s degree in a one-year fellowship format; and the variability of focus on physician learning in master’s degree programs. With respect to certificate-granting programs, Sponsoring Institutions should consider the potential for standardization of program structure; consistency with core knowledge, skills, attitudes, and exposures of the fellowship; and the enhancement of scholarly activity. The integration of degree- or certificate-granting activities with the fellowship program may be facilitated by institutional partnerships with other organizations (e.g., business schools).

521 As described more fully in Section IV.D below, programs should have flexibility to allow
522 fellows to practice medicine in their core specialty(ies) while they are also completing the
523 fellowship, with an appropriate balance between educational responsibilities in the program and
524 clinical responsibilities outside the program.
525
526 **C. Accessibility of Accreditation to Sponsoring Institutions**
527
528 The ACGME should ensure that any ACGME-accredited Sponsoring Institution may
529 achieve accreditation of a fellowship in HALM. In order to make fellowship accreditation
530 accessible to all Sponsoring Institutions, accreditation designation should ensure that any type
531 of Sponsoring Institution, in partnership with its participating sites, is able to ensure compliance
532 with ACGME requirements for the fellowship. In addition, ACGME accreditation processes and
533 requirements should not inhibit the development of fellowship experiences in clinical learning
534 environments that prioritize care for medically underserved populations.
535 To achieve these objectives, the ACGME accreditation model for fellowships in HALM
536 should:
537
538 • prioritize outcomes over process when setting expectations for educational
539 experiences;
540 • account for variability and adaptivity of types of settings, resource availability, and
541 experiential learning opportunities;
542 • anticipate that faculty members and mentors representing multiple professions may
543 be involved in the supervision and education of fellows;
544 • facilitate networking of programs and individuals in Sponsoring Institutions with
545 shared interests;
546 • permit the appropriate and effective use of shared educational resources, and
547 technology for distance education;
548 • enable the local definition of career paths in HALM that prioritize the needs of
549 underserved areas/populations; and,
550 • emphasize the importance of community engagement of fellows.
551
552 **D. Ongoing Clinical Practice**
553
554 Fellows in HALM should have opportunities to pursue ongoing clinical practice in their
555 specialty and/or subspecialty while completing the program. While responsibilities for direct
556 patient care are outside the scope of the fellowship, fellows' engagement in medical practice
557 may facilitate their continued professional development as physician leaders, while also
558 generating clinical revenue that may facilitate institutional support for the fellowship.
559 Under current ACGME requirements for subspecialty fellowship programs, ACGME
560 Review Committees may allow fellows to engage in unsupervised practice in their core
561 specialties.[37] This option should be studied for adaptation in the requirements for the
562 Sponsoring Institution-based fellowship in HALM. In the accreditation of fellowship programs,
563 the ACGME should ensure that fellows' ongoing clinical practice obligations are appropriately
564 balanced with fellow education. This will require Sponsoring Institutions and their fellowship

565 programs to provide some oversight of ongoing clinical practice and its effects on fellows'
566 participation in their programs.
567 When determining appropriate specifications for ongoing clinical practice in the
568 Sponsoring Institution-based fellowship, the ACGME should consider the Common Program
569 Requirements for fellowships, which restrict fellows' time in independent practice to no
570 morethan 20% of their time. The expectation would be that ongoing clinical practice would not
571 exceed 50% of fellows' working time.
572 Because it is external to the HALM fellowship, ongoing clinical practice in the fellow's
573 specialty or subspecialty should be optional for the fellow. In developing its accreditation
574 guidance for the HALM fellowship, the ACGME should address the potential for physicians' part-
575 time participation in Sponsoring Institution-based fellowships, which may extend physicians'
576 time in the program and may be compatible with certain options for ongoing clinical practice.
577

578 **E. Development of Fellowship Accreditation**

579
580 Responsibility for accreditation decisions should be assigned to an ACGME Institutional
581 Review Committee that is able to provide peer-review evaluation of Sponsoring-Institution
582 based fellowship programs. The ACGME Board of Directors' delegation of accreditation
583 authority for the fellowship may necessitate the addition of accreditation functions to the existing
584 Institutional Review Committee, or the possible creation of an additional Institutional Review
585 Committee for Health Care Administration, Leadership, and Management, if there is substantial
586 review and oversight required due to the number of programs.
587 In either case, the ACGME should ensure that the Review Committee with delegated
588 accreditation authority for Sponsoring Institution-based fellowship includes the expertise of
589 physicians who specialize in HALM; DIOs; a fellow member; and a public member. Except for
590 the public member, the Review Committee members should be selected from the physician
591 executive and GME communities at large. Consistent with ACGME Policies and Procedures,
592 each member of the Review Committee, with the exception of the fellow member and public
593 member, should be associated with a Sponsoring Institution in good accreditation standing, and
594 should possess demonstrated experience in educational administration, institutional oversight,
595 and/or institutional review.
596 The Department of Sponsoring Institutions and Clinical Learning Environments, in
597 collaboration with other ACGME departments, will be responsible for the implementation of the
598 Sponsoring Institution-based fellowship in HALM, including the development of requirements
599 and accreditation processes, at the direction of the ACGME's Board of Directors and its
600 President and Chief Executive Officer, and in accordance with ACGME Policies and
601 Procedures.

Notes

[1] Combes JR, Arespacochaga E. American Hospital Association, Physician Leadership Forum. Lifelong learning: physician competency development. https://www.aha.org/system/files/media/file/2019/05/lifelong-learning-physician-competency-development.pdf. Published June 2012. Accessed November 1, 2020.

[2] Accreditation Council for Graduate Medical Education. Clinical Learning Environment Review (CLER). National Report of Findings 2018. *J Grad Med Educ*. 2018;10(4S). https://www.jgme.org/toc/jgme/10/4s. Accessed June 2, 2019.
[3] Lipstein SH, Kellermann AL. Workforce for 21st-Century Health and Health Care. *JAMA.* 2016;316(16):1665–1666. doi:10.1001/jama.2016.13715
[4] ACGME Policies and Procedures. (Section 11.30.) Effective September 26, 2020. https://acgme.org/Portals/0/PDFs/ab_ACGMEPoliciesProcedures.pdf. Accessed November 1, 2020.
[5] Tasi MC, Keswani A, Bozic KJ. Does physician leadership affect hospital quality, operational efficiency, and financial performance? *Health Care Manage Rev* . 2019;44(3):256-262. doi:10.1097/HMR.0000000000000173.
[6] Vaughn T, Koepke M, Levey S, et al. Governing board, C-suite, and clinical management perceptions of quality and safety structures, processes, and priorities in U.S. hospitals. *J Healthc Manag*. 2014;59(2):111-128. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=mdc&AN=24783369&site=eds-live. Accessed May 14, 2020.
[7] Accreditation Council for Graduate Medical Education. Clinical Learning Environment Review (CLER). National Report of Findings 2018. *J Grad Med Educ*. 2018;10(4S). https://www.jgme.org/toc/jgme/10/4s. Accessed June 2, 2019.
[8] Berwick DM, Nolan TW, Whittington J. The triple aim: care, health and cost. *Health Aff* 2008*;*27*:*759–69*.* doi:10.1377/hlthaff.27.3.759
[9] Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. *Ann Fam Med*. 2014;12(6):573-576. doi:10.1370/afm.1713
[10] ACGME Institutional Requirements. Effective July 1, 2018. https://www.acgme.org/Designated-Institutional-Officials/Institutional-Review-Committee/Institutional-Application-and-Requirements. Accessed November 1, 2020.
[11] CLER Evaluation Committee. CLER Pathways to Excellence: Expectations for an Optimal Clinical Learning Environment to Achieve Safe and High-Quality Patient Care, Version 2.0. Chicago, IL: Accreditation Council for Graduate Medical Education; 2019. doi:10.35425/ACGME.0003
[12] Gonzalo JD, Dekhtyar M, Starr SR, Borkan J, Brunett P, Fancher T, Green J, Grethlein SJ, Lai C, Lawson L, Monrad S, O'Sullivan P, Schwartz MD, Skochelak S. Health Systems Science Curricula in Undergraduate Medical Education: Identifying and Defining a Potential Curricular Framework. *Acad Med.* 2017 Jan;92(1):123-131. doi: 10.1097/ACM.0000000000001177. PMID: 27049541.
[13] Skochelak SE, Hawkins RE, AMA Education Consortium Health systems science. 1st ed. Philadelphia: Elsevier; 2017.
[14] Gonzalo JD, Caverzagie KJ, Hawkins RE, Lawson L, Wolpaw DR, Chang A. Concerns and Responses for integrating health systems science into medical education. *Acad Med.* 2018 Jun;93(6):843-849. doi: 10.1097/ACM.0000000000001960. PMID: 29068816.
[15] American Hospital Association (AHA). AHA hospital statistics. https://www.aha.org/statistics/fast-facts-us-hospitals Published 2018. Accessed November 1, 2020.
[16] Angood P, Birk S. The value of physician leadership. *Physician executive*. 2014;40(3):6-20.
[17] Muhlenstein D, Bleser WK, Saunders RS, Richards R, et al. Spread of ACOs and value-based payment models in 2019: gauging the impact of pathways to success. Health affairs blog. https://www.healthaffairs.org/do/10.1377/hblog20191020.962600/full/. Accessed October 15, 2020.
[18] Agency for Health Research and Quality. Snapshot of US health systems, 2016. Comparative Health System Performance Initiative. Pub No 17-0046-1-EF. September 2017. https://www.ahrq.gov/chsp/data-resources/compendium-2016.html. Updated December 1, 2019. Accessed November 1, 2020.

[19] Trandel E. What does the CMO role look like today? Physician Executive Council. Advisory Board. https://www.advisory.com/research/physician-executive-council/prescription-for-change/2016/04/cmo-role-survey-results. Accessed October 15, 2020.

[20] American College of Health Care Executives. 2020 hospital CEO turnover report. https://www.ache.org/about-ache/news-and-awards/news-releases/hospital-ceo-turnover-2020. Accessed October 18, 2020.

[21] Berghout MA, Fabbricotti IN, Buljac-Samardžić M, Hilders CGJM. Medical leaders or masters?—A systematic review of medical leadership in hospital settings. *PLoS One*. 2017;12(9):1-24. doi:10.1371/journal.pone.0184522.

[22] Duval JF, Opas LM, Nasca TJ, Johnson PF, Weiss KB. Report of the SI2025 Task Force. *J Grad Med Educ*. 2017;9(6 Suppl):11-57. doi:10.4300/1949-8349.9.6s.11.

[23] Garman AN, Lemak C. The evolving leadership development agenda in health-care: a commentary. *Advances in health care management*. 2011;10:167-169.

[24] Garman AN, Standish MP, Wainio JA. Bridging worldviews: Toward a common model of leadership across the health professions. *Health Care Manage Rev*. March 2019.

[25] Pearson MM. Transformational leadership principles and tactics for the nurse executive to shift nursing culture. *J Nurs Adm.* 2020 Mar;50(3):142-151. doi: 10.1097/NNA.0000000000000858. PMID: 32068623.

[26] American Association for Physician Leadership. http://www.physicianleaders.org/. Accessed November 1, 2020.

[27] American College of Health Care Executives. http://www.ache.org/. Accessed November 1, 2020.

[28] Blumenthal DM, Bernard K, Bohnen J, Bohmer R. Addressing the leadership gap in medicine: Residents' need for systematic leadership development training. *Acad Med*. 2012;87(4):513-522. doi:10.1097/ACM.0b013e31824a0c47.

[29] Jardine D, Correa R, Schultz H, et al. The need for a leadership curriculum for residents. *J Grad Med Educ*. 2015;7(2):307-309. doi:10.4300/JGME-07-02-31.

[30] Hopkins MM, O'Neil DA, Stoller JK. Distinguishing competencies of effective physician leaders. *Journal of Management Development*. 2015;34(5):566. Accessed June 2, 2020.

[31] Adminstrative fellowship overview. Johns Hopkins Medicine. https://www.hopkinsmedicine.org/adminfellowship/overview/. Accessed November 1, 2020.

[32] Leadership institute. American Association of Colleges of Osteopathic Medicine. https://www.aacom.org/reports-programs-initiatives/leadership-institute. Accessed November 1, 2020.

[33] Leadership Development. Association of American Medical Colleges. https://www.aamc.org/professional-development/leadership-development/. Accessed November 1, 2020.

[34] Leadership. Institute for Health Care Improvement. http://www.ihi.org/Topics/Leadership/Pages/default.aspx/. Accessed November 1, 2020.

[35] Duval JF, Opas LM, Nasca TJ, Johnson PF, Weiss KB. Report of the SI2025 Task Force. *J Grad Med Educ*. 2017;9(6 Suppl):11-57. doi:10.4300/1949-8349.9.6s.11.

[36] Duval JF, Opas LM, Nasca TJ, Johnson PF, Weiss KB. Report of the SI2025 Task Force. *J Grad Med Educ*. 2017;9(6 Suppl):11-57. doi:10.4300/1949-8349.9.6s.11.

[37] ACGME Common Program Requirements for fellowships. Effective July 1, 2020. https://www.acgme.org/What-We-Do/Accreditation/Common-Program-Requirements. Accessed November 1, 2020.

Attachment 1

Advisory Group Membership

Name	Title
Carolyn Clancy, MD (Advisory Group Co-Chair)	Assistant Under Secretary for Discovery, Education, Affiliate Networks, Veterans Health Administration, Department of Veterans Affairs
Karen Nichols, DO, MA, MACOI, CS (Advisory Group Co-Chair)	Chair, ACGME Board of Directors
Georges C. Benjamin, MD, MACP	Executive Director, American Public Health Association
Timothy Brigham, PhD	Chief of Education & Organizational Development, ACGME
Christian Cable, MD	Designated Institutional Official, Texas A&M College of Medicine – Scott and White Medical Center
John Combes, MD	Chief Communications and Public Policy Officer, ACGME
Regina Cunningham, PhD, RN	Chief Executive Officer, Hospital of the University of Pennsylvania
Stuart J. Davidson, MD, Capt, USAF	Orthopaedic Surgery Resident, San Antonio Military Medical Center
Sanjay V. Desai, MD	Director, Osler Medical Training Program, Johns Hopkins University School of Medicine
John Duval, MBA, FACHE	Senior Scholar, ACGME
John Felton, MPH, MBA, FACHE	President, CEO and Health Officer, Riverstone Health
Thomas J. Hansen, MD	Designated Institutional Official and System Vice President Chief Academic Officer, Advocate Aurora Health
Lynne Kirk, MD	Chief Accreditation and Recognition Officer, ACGME
Sandeep Krishnan, MD	Director, Structural Heart Program, King's Daughters Medical Center
Jennifer LeTourneau, DO	Designated Institutional Official, Legacy Health
Kathy Malloy	Vice President, Accreditation Standards, ACGME
Robin Newton, MD	Vice President, CLER Field Operations, ACGME
Steve Rose, MD	Designated Institutional Official, Mayo Clinic
Gary L. Slick, DO	Designated Institutional Official, Oklahoma State University Center for Health Sciences
Linda Talley, MS, RN, NE-BC, FAAN	Chief Nursing Officer and Vice President, Children's National Hospital

Andrew Thomas, MD	Chief Medical Officer, The Ohio State University Wexner Medical Center
Tami Walters	Director, Governance, Appeals, Policies & Procedures, ACGME
Robin Wagner, RN, MHSA	Senior Vice President, CLER, ACGME
Stephen Weber, MD	Chief Medical Officer and Vice President for Clinical Effectiveness, University of Chicago Medicine
Susan White	Senior Director, External Communications and Media Relations, ACGME
Yolanda H. Wimberly, MD, MS	Associate Dean for Graduate Medical Education and Designated Institutional Official, Morehouse School of Medicine
Ronald Wyatt, MD	Vice President and Patient Safety Officer, MCIC Vermont
Claudia Wyatt-Johnson	Owner, Partners in Performance

Attachment 2

Selected Bibliography

American College of Health Care Executives. Hospital CEO survey on senior leadership teams in freestanding hospitals. *Health care executive*. 2015;30(4):74. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=mdc&AN=26750798&site=eds-live. Accessed May 14, 2020.

Angood P, Birk S. The value of physician leadership. *Physician executive*. 2014;40(3):6-20. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=24964545&site=eds-live. Accessed June 11, 2020.

Bai G, Krishnan R. Do hospitals without physicians on the board deliver lower quality of care? *AM J Med Qual*. 2015;30(1):58-65. doi:10.1177/1062860613516668.

Beer M, FinnstrÖm M, Schrader D. Why leadership training fails—and what to do about it. . *Harvard Business Review*. 2016;94(10):50-57. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=buh&AN=118307824&site=ehost-live&scope=site. Accessed May 14, 2020.

Berghout MA, Fabbricotti IN, Buljac-Samardžić M, Hilders CGJM. Medical leaders or masters?—A systematic review of medical leadership in hospital settings. *PloS One*. 2017;12(9):1-24. doi:10.1371/journal.pone.0184522.

Bersin J. The 5 elements of a strong leadership pipeline. *Harvard Business Review*; October 2016. https://hbr.org/2016/10/the-5-elements-of-a-strong-leadership-pipeline. Accessed May 14, 2020.

Blumenthal DM, Bernard K, Bohnen J, Bohmer R. Addressing the leadership gap in medicine: Residents' need for systematic leadership development training. *Acad Med*. 2012;87(4):513-522. doi:10.1097/ACM.0b013e31824a0c47.

Carsen S, Xia C. The physician as leader. *McGill journal of medicine : MJM : an international forum for the advancement of medical sciences by students*. 2006;9(1):1-2. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=19529799&site=eds-live. Accessed June 11, 2020.

Casciaro T, Edmondson AC, Jang S. Cross-Silo leadership. *Harvard Business Review*. 2019;97(3):130. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=edb&AN=135981994&site=eds-live. Accessed May 14, 2020.

Clay-Williams R, Ludlow K, Testa L, Zhicheng L, Braithwaite J. Medical leadership, a systematic narrative review: Do hospitals and health care organisations perform better when led by doctors? *BMJ Open.* 2017;7:e014474. doi: 10.1136/bmjopen-2016-014474

Colla CH, Lewis VA, Shortell SM, Fisher ES. First national survey of ACOs finds that physicians are playing strong leadership and ownership roles. *Health Aff (Millwood)*. 2014;33(6):964-971. doi:10.1377/hlthaff.2013.1463.

Collins-Nakai R. Leadership in medicine. *McGill journal of medicine : MJM : an international forum for the advancement of medical sciences by students*. 2006;9(1):68-73. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=19529813&site=eds-live. Accessed June 11, 2020.

Curry LA, Spatz E, Cherlin E, et al. What distinguishes top-performing hospitals in acute myocardial infarction mortality rates? A qualitative study. *Ann Intern Med*. 2011;154(6):384-390. doi:10.7326/0003-4819-154-6-201103150-00003.

Dickerman J, Sánchez JP, Portela-Martinez M, Roldan E. Leadership and academic medicine: Preparing medical students and residents to be effective leaders for the 21st century. *MedEdPORTAL*. 2018;14:10677. doi:10.15766/mep_2374-8265.10677.

Frich JC, Brewster AL, Cherlin EJ, Bradley EH. Leadership development programs for physicians: A systematic review. *J Gen Intern Med*. 2015;30(5):656-674. doi:10.1007/s11606-014-3141-1.

Garman AN, Lemak C. The evolving leadership development agenda in health-care: A commentary. *Adv Health Care Manag*. 2011;10:167-169. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=21887944&site=eds-live. Accessed June 11, 2020.

Garman AN, Standish MP, Wainio JA. Bridging worldviews: Toward a common model of leadership across the health professions. *Health Care Manage Rev*. March 2019. doi:10.1097/HMR.0000000000000243.

Goodall AH. Physician-leaders and hospital performance: is there an association? *Soc Sci Med (1982)*. 2011;73(4):535-539. doi:10.1016/j.socscimed.2011.06.025.

Gunderman R, Kanter SL. Perspective: Educating physicians to lead hospitals. *Acad Med.* . 2009;84(10):1348-1351. doi:10.1097/ACM.0b013e3181b6eb42.

Hopkins J, Fassiotto M, Ku MC, Mammo D, Valantine H. Designing a physician leadership development program based on effective models of physician education. *Health Care Manage Rev*. 2018;43(4):293-302. doi:10.1097/HMR.0000000000000146.

Hopkins MM, O'Neil DA, Stoller JK. Distinguishing competencies of effective physician leaders. *Journal of Management Development*. 2015;34(5):566. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=edb&AN=102690916&site=eds-live. Accessed June 2, 2020.

Jardine D, Correa R, Schultz H, et al. The need for a leadership curriculum for residents. *J Grad Med Educ*. 2015;7(2):307-309. doi:10.4300/JGME-07-02-31.

Jenson HB, Dorner D, Hinchey K, Ankel F, Goldman S, Patow C. Integrating quality improvement and residency education: Insights from the AIAMC National Initiative about the roles of the designated institutional official and program director. *Acad Med.*. 2009;84(12):1749-1756. Doi:10.1097/ACM.0b013e3181bf686f.

Karpinski J, Samson L, Moreau K. Residents as leaders: A comprehensive guide to establishing a leadership development program for postgraduate trainees. MedEdPORTAL. 2015; 11:10168. doi: [10.15766.mep_2374-8265.10168](10.15766.mep_2374-8265.10168)

Kastor JA. Accountable care organizations at academic medical centers. *N Engl J Med.*. 2011;364(7):e11. doi:10.1056/NEJMp1013221.

Khoshhal KI, Guraya SY. Leaders produce leaders and managers produce followers. A systematic review of the desired competencies and standard settings for physicians' leadership. *Saudi Med J.*. 2016;37(10):1061-1067. doi:10.15537/smj.2016.10.15620.

Kim TH, Thompson JM. Organizational and market factors associated with leadership development programs in hospitals: a national study. *J Healthc Manag*. 2012;57(2):113-131. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=mdc&AN=22530292&site=eds-live. Accessed May 14, 2020.

Lee TH, Cosgrove T. Engaging doctors in the health care revolution. *Harvard business review*. 2014;92(6):104. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=25051859&site=eds-live. Accessed June 2, 2020.

Lee TH, Hall KW. Turning doctors into leaders. *Harvard Business Review*. 2010;88(4):50-58. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=buh&AN=48736757&site=eds-live. Accessed May 14, 2020.

Lerman C, Jameson JL. Leadership development in medicine. *N Engl J Med.*. 2018;378(20):1862-1863. doi:10.1056/NEJMp1801610.

Lucas R, Goldman EF, Scott AR, Dandar V. Leadership development programs at academic health centers: Results of a national survey. *Acad Med.* . 2018;93(2):229-236. doi:10.1097/ACM.0000000000001813.

Mauck S. What distinguishes top-performing hospitals in acute myocardial infarction mortality rates? A qualitative study: Curry L, Spatz E, Cherlin E, et al. Ann Intern Med 2011;154:384–90. *J Emerg Med*. 2011;41(1):109. Doi:10.1016/j.jemermed.2011.05.003.

McAlearney AS, Fisher D, Heiser K, Robbins D, Kelleher K. Developing effective physician leaders: Changing cultures and transforming organizations. *Hosp Top*. 2005;83(2):11-18. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=mdc&AN=16190516&site=eds-live. Accessed May 14, 2020.

Moldoveanu M, Narayandas D. The future of leadership development. *Harvard Business Review*. 2019;97(2):40-48. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=buh&AN=134854840&site=ehost-live&scope=site. Accessed May 14, 2020.

Moore K, Patel H, Razack S, Snell L, Taylor L. Management and leadership development programs for the medical community at McGill University. *McGill journal of medicine : MJM : an international forum for the advancement of medical sciences by students*. 2006;9(1):74-77. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=19529814&site=eds-live. Accessed June 11, 2020.

Nurok M, Lee TH. Transforming culture in health care. *N Engl J Med.* 2019;381(22):2173-2175. doi:10.1056/NEJMms1906654.

Onyura B, Crann S, Tannenbaum D, Whittaker MK, Murdoch S, Freeman R. Is postgraduate leadership education a match for the wicked problems of health systems leadership? A critical systematic review. *Perspect Med Educ.*. 2019;8(3):133-142. doi:10.1007/s40037-019-0517-2.

Perreira T, Perrier L, Prokopy M, Jonker A. Physician engagement in hospitals: A scoping review protocol. *BMJ Open*. 2018;8(1):e018837. doi:10.1136/bmjopen-2017-018837.

Perreira TA, Perrier L, Prokopy M, Neves-Mera L, Persaud DD. Physician engagement: A concept analysis. *Journal of health care leadership*. 2019;11:101-113. doi:10.2147/JHL.S214765.

Porter ME, Lee TH. Why strategy matters now. *N Engl J Med*. 2015;372(18):1681-1684. doi:10.1056/NEJMp1502419.

Porter ME, Teisberg EO. How physicians can change the future of health care. *JAMA*. 2007;297(10):1103-1111. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=17356031&site=eds-live. Accessed June 2, 2020.

Pronovost PJ, Miller MR, Wachter RM, Meyer GS. Perspective: Physician leadership in quality. *Acad Med.* 2009;84(12):1651-1656. doi:10.1097/ACM.0b013e3181bce0ee.

Richard M.J. B. Leading clinicians and clinicians leading. *N Engl J Med.*. 2013;368(16):1468-1470. doi:10.1056/NEJMp1301814.

Robert E. F, Bhagwan S. Physician as hospital chief executive officer. *Vasc Endovascular Surg*. 2008;42(1):88-94. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=edsovi&AN=edsovi.00134449.200802000.00017&site=eds-live. Accessed May 26, 2020.

Rotenstein LS, Sadun R, Jena AB. Why doctors need leadership training. *Harvard Business Review Digital Articles*. October 2018:1. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=edb&AN=132473904&site=eds-live. Accessed June 2, 2020.

Rowland D. Why leadership development isn't developing leaders. *Harvard Business School Cases*. October 2016:1.

Sadowski B, Cantrell S, Barelski A, O'Malley PG, Hartzell JD. Leadership training in graduate medical education: A systematic review. *J Grad Med Educ.*. 2018;10(2):134-148. doi:10.4300/JGME-D-17-00194.1.

Schultz FC, Pal S. Who should lead a health care organization: MDs or MBAs? *J Healthc Manag*. 2004;49(2):103-116. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=mdc&AN=15074119&site=eds-live. Accessed June 2, 2020.

Snell AJ, Briscoe D, Dickson G. From the inside out: The engagement of physicians as leaders in health care settings. *Qual Health Res*. 2011;21(7):952-967. doi:10.1177/1049732311399780.

Stoller JK, Goodall A, Baker A. Why the best hospitals are managed by doctors. *Harvard Business Review Digital Articles*. December 2016:2. http://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=edb&AN=120606311&site=eds-live. Accessed June 2, 2020.

Straus SE, Soobiah C, Levinson W. The impact of leadership training programs on physicians in academic medical centers: A systematic review. *Acad Med*. 2013;88(5):710-723. doi:10.1097/ACM.0b013e31828af493.

Sultan N, Torti J, Haddara W, Inayat A, Inayat H, Lingared L. Leadership Development in Postgraduate Medical Education: A Systematic Review of the Literature. *Acad Med* 2019;(3):440. Doi:10.1097/ACM.0000000000002503.

Tasi MC, Keswani A, Bozic KJ. Does physician leadership affect hospital quality, operational efficiency, and financial performance? *Health Care Manage Rev*. 2019;44(3):256-262. doi:10.1097/HMR.0000000000000173.

Tsoh JY, Kuo AK, Barr JW, et al. Developing faculty leadership from “within”: A 12-year reflection from an internal faculty leadership development program of an academic health sciences center. *Med Educ Online*. 2019;24(1):1-5. doi:10.1080/10872981.2019.1567239.

van de Riet MCP, Berghout MA, Buljac-Samardžić M, van Exel J, Hilders CGJM. What makes an ideal hospital-based medical leader? Three views of health care professionals and managers: A case study. *PloS One*. 2019;14(6):e0218095. doi:10.1371/journal.pone.0218095.

Vaughn T, Koepke M, Levey S, et al. Governing board, C-suite, and clinical management perceptions of quality and safety structures, processes, and priorities in U.S. hospitals. *J Healthc Manag* 2014;59(2):111-128. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=mdc&AN=24783369&site=eds-live. Accessed May 14, 2020.

Veronesi G, Kirkpatrick I, Vallascas F. Clinicians on the board: What difference does it make? *Soc Sci Med*. 2013;77:147-155. doi:10.1016/j.socscimed.2012.11.019.

Walker L. Governance never events. *Trustee*. 2013;66(1):6-7. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=buh&AN=84976495&site=eds-live. Accessed May 14, 2020.

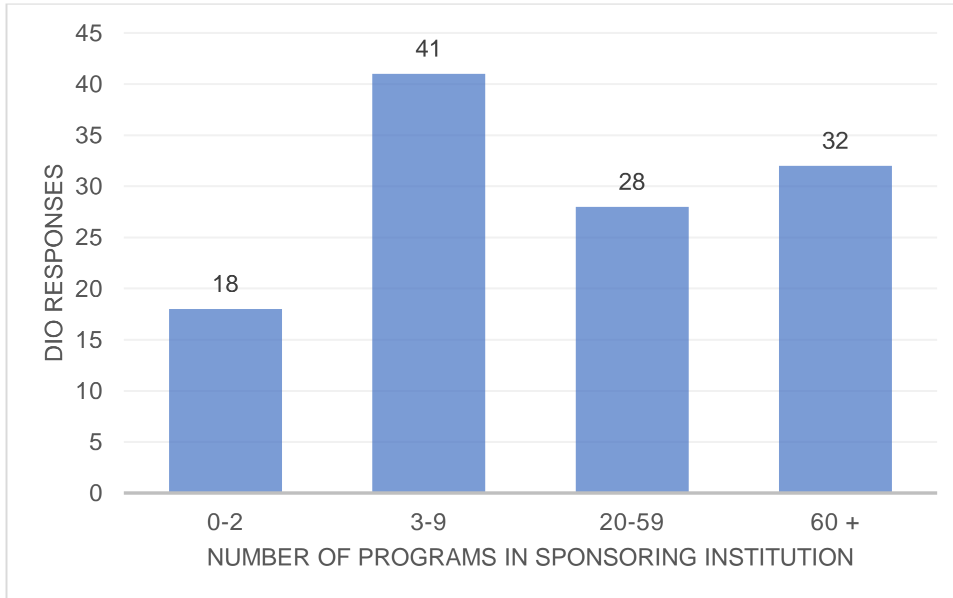
Weber DO. Physicians lead the way at America’s top hospitals. *Physician executive*. 2001;27(3):24-29. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,shib&db=mdc&AN=11387891&site=eds-live. Accessed May 26, 2020.

Wholey DR, Disch J, White KM, et al. Differential effects of professional leaders on health care teams in chronic disease management groups. *Health Care Manage Rev*. 2014;39(3):186-197. doi:10.1097/HMR.0b013e3182993b7f.

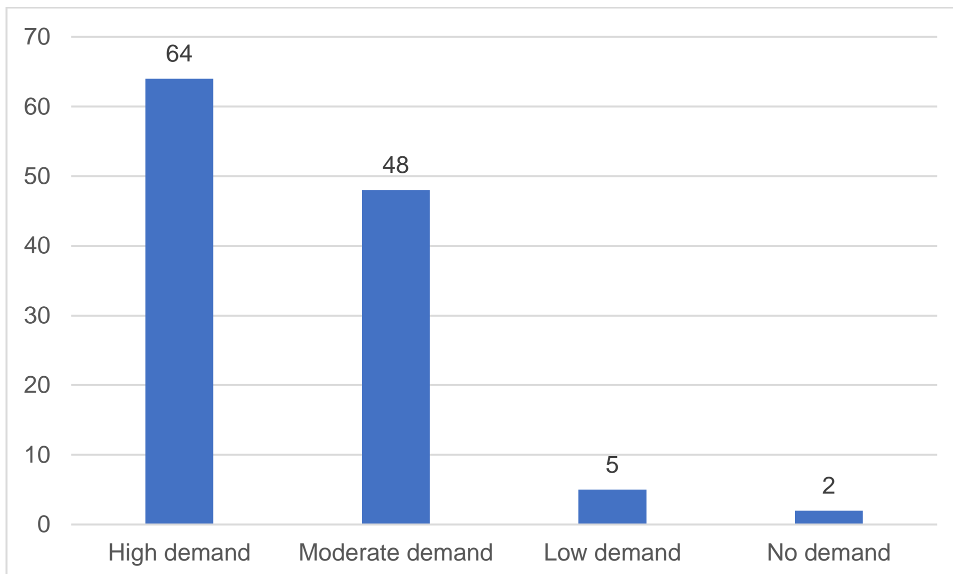
Attachment 3

DIO Poll Results

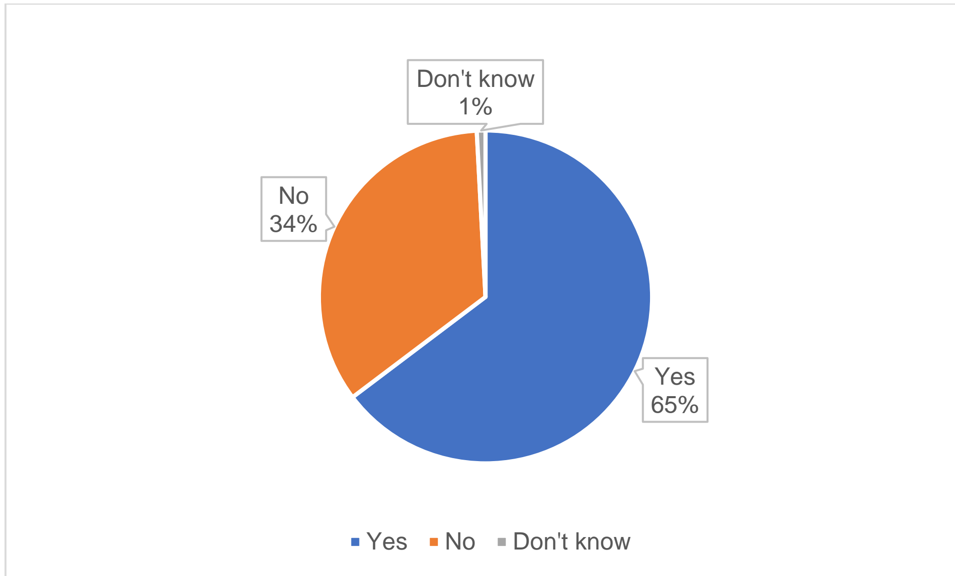
1. How many programs does your Sponsoring Institution have?



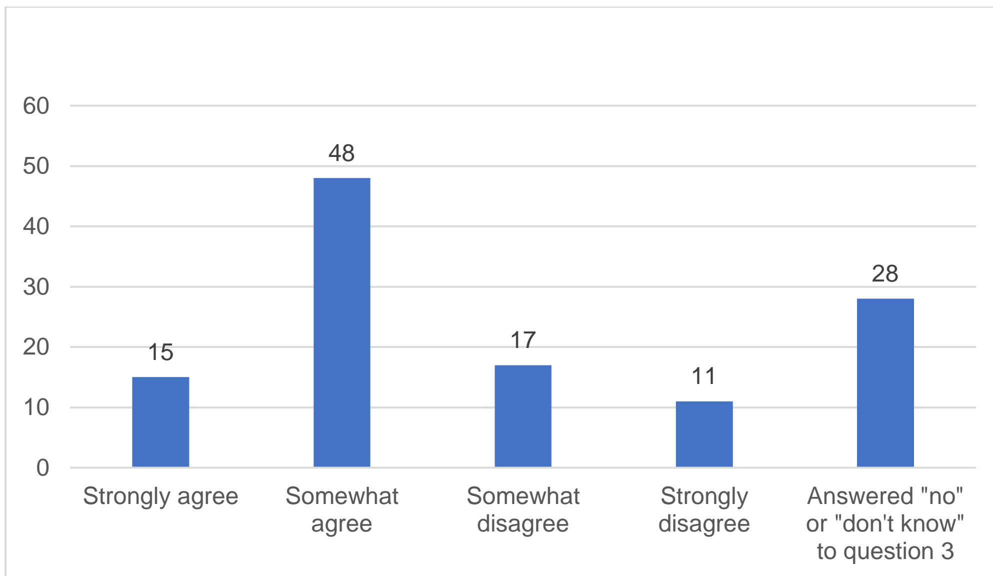
2. How would you characterize the workforce demand for physician leaders who are knowledgeable and skilled in health care administration, leadership, and management?



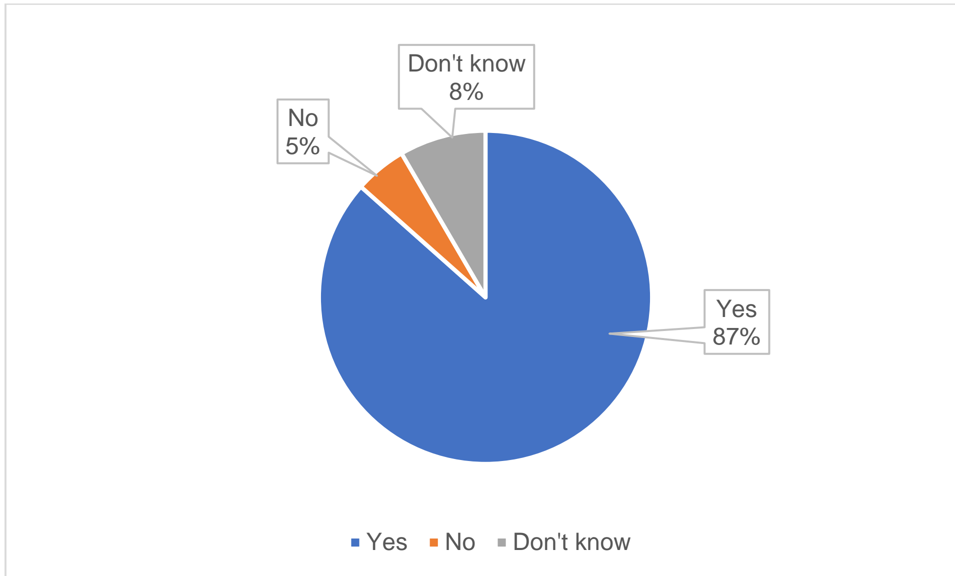
3. Does your sponsoring institution have an academic unit or health care organizational partner that currently offers some type of training for physicians in health care administration, management, and leadership?



4. If yes to question three, please describe your agreement to the following statement: Training programs in health care administration, management, and leadership offered by my sponsoring institution are meeting the needs of the participating sites of my sponsoring institution.



5. Would your sponsoring institution benefit from having training opportunities for physicians in health care administration, management, and leadership?



6. Based upon today's presentation, what do you believe the level of interest would be in your sponsoring institution to have an ACGME-accredited fellowship in health care administration, leadership, and management?