North Carolina Medical Society

Leadership in Medicine

A CURRICULUM FOR 21ST CENTURY PHYSICIAN LEADERSHIP PROGRAMS

Building A 21st Century Physician Leadership Curriculum White Paper (FINAL DRAFT)

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EXECUTIVE SUMMARY

In 2014, it was estimated that approximately 5% of hospital leaders were physicians with that number expected to grow as industry attentions shift to value and quality care.[1] In the United States and abroad, hospitals and hospital systems with these clinician leaders have better performance in quality rankings, financial resources, and social performance than institutions with non-physician leaders (Goodall, 2011; Sarto & Veronesi, 2016[2]). Although evidence suggests that many program directors and chief residents believe leadership skills can be cultivated through experience and observation, there is also growing appreciation for formal leadership curriculum, with some experts equating the importance of management and leadership training with clinical training (Baird et al, 2012 [3]; Schwartz et al, 2000[4]).

Today, physician leadership programs generally seek to increase the number of physician leaders in healthcare, enhancing physician management capabilities, broadening physician

[1] Physician Leadership Education, American Hospital Association's Physician Leadership Forum, 2014.
[2] *Goodall, 2011. Hospital Performance: http://www.sciencedirect.com/science/article/pii/S0277953611003819*; Sarto & Veronesi, 2016. http://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-016-1395-5
[3] http://www.jaad.org/article/S0190-9622(09)01254-7/abstract.
[4] Management and Leadership training as important… Schwartz et al, 2000: http://journals.lww.com/academicmedicine/Abstract/2000/02000/Programs_for_the_Development_of_Physician_Leaders_.8.aspx

networks, and deepening the bodies of academic and industry knowledge through sharing of practical insight. In response to the pointed need to effectively train physician leaders and enhance the overall quality, efficacy and cost of healthcare in the changing and dynamic industry, Brandeis University hosted a two-day conference in the fall of 2015. In preparation for this meeting, the university and its scholars collected anonymous survey data from physician leaders and training programs from across the nation to give better insight as to critical areas for enhanced alignment between elements in existing physician leadership training program curricula design and core gaps in physician practical knowledge. Later, these data would mark the foundation of discourse on "Building a 21st Century Physician Leadership Curriculum," through which additional information would be explored.

Among several key data points gained through the survey data, scholars derived core curricula topic area recommendations, aligning the knowledge needs of physician learners and program courses. These fundamental, best practice topic areas for success include:

- Leadership
- Health Care Finance
- Organizational Behavior
- Conflict Resolution and Negotiation
- Coaching and Mentoring
- Building High Performing Teams
- Quality & Performance Measurement
- Operations Management
- Strategic Management
- State & National Health Policy

In addition to the topics above, physicians also listed technology and information systems, among a number of other sub-topics, within their top ten topics of interests for consideration.

While there is, certainly, no doubt that the role of technology, Big Data, and information management within health care will only increase over time, these topics are not currently prioritized in the leadership curricula of most programs or healthcare environments. These concepts, consistent with findings of other physician-based surveys, also bring to the forefront a series of individual-level, invaluable qualities in leadership, including emotional intelligence, and decision-making (Angood, 2014[5]; Chilingerian , 2006; Mintz & Stoller, 2014[6]; Harris et al, 2014[7]).[8]

Beyond the composure of the curriculum, the conference also unearthed best practices in program delivery and pedagogy, as well as recommendations moving forward based on program and physician survey results. Research suggests linking leadership training to continuing medical education (CME) and multimodal teaching (Stoller, 2013). In addition to didactic, action-based learning and case methodologies, with either simulations or other interactive teaching methods such as project-based learning, role-play, simulations, or small

[5] Angood, Peter; Birk, Susan. "The Value of Physician Leadership." Physician Executive. 40.3 (2014): 6-21 Incorporating **Emotional Intelligence** is a critical factor in physician leadership training. Additional metrics should be developed to draw links between. http://www.jgme.org/doi/abs/10.4300/JGME-D-13-00012.1

[6] Laura Janine Mintz and James K. Stoller (*2014*) A Systematic Review of Physician Leadership and Emotional Intelligence. Journal of Graduate Medical Education: March 2014, Vol. 6, No. 1, pp. 21-31

[7] Harris, Mitchel B., M.D., et al. "Physician Self-Assessment of Leadership Skills."*Physician Executive* 40.2 (2014): 30,4, 36. A 2014 self-assessment study indicated that personnel management and communication, financial management, and decision-making skills would be most beneficial curricular adjuvants in the physician-leader curriculum (Harris et al, 2014) http://search.proquest.com/docview/1518114920/abstract/313E97DC628947A6PQ/1?accountid=9703

[8] According to a 2014 white paper, core competencies for physician leaders include: humility, egalitarianism, respect, stakeholder engagement for best practices, tenacity through difficult **decision-making**, and "an absolute unwillingness to blink when an individual physician asserts special status." Additional competency gaps mentioned include: **team building and communication**, **business intelligence**, **finance**, **strategy**, **IT**, **law** and the ability to be **agile** in the learning space to adjust to an industry in flux.
http://csms.org/wp-content/uploads/2015/04/The-Value-of-Physician-Leadership.pdf

group discussions, this paper discusses novel approaches to: length, number, and frequency of program convening; online learning; size and make-up of cohorts, faculty, tools and assessments, evaluations, coaching and marketing.

While the information gathered through the survey was critical to the development of core physician-leader curricula, it supplemented the main objectives of the forum, which were threefold: first, to identify professional gaps, physician leadership competencies, and issues affecting physician performance; second, to develop "universal" and ad hoc curriculum exemplars that reflect the growing needs of 21st century health care systems nation-wide; and third, to share lessons learned, best practices and other novel ideas in physician leadership.

Over the course of the conference, participants and experts presented new, blended distance learning technologies and topics of interest. These discussions included but were not limited to: common program characteristics, program fiscal characteristics, program factors for success, key physician professional challenges, leadership and assessment tools, and novel pedagogy, among others. The Leadership Conference provided an opportunity for grantees to share and learn from one another while building interpersonal and individual-level tools and skills, as well as beginning to build consensus on best practices moving forward. This paper explores the survey results, surrounding discourse, and subsequent recommendations as they pertain to physician healthcare leadership curricula design and program implementation. Recommendations include four-level assessment of program efficacy, which measure student reaction, content learning, behavior change, and overall results.

INTRODUCTION

Throughout the world, health care delivery systems are changing. Increasingly, physicians work in patient-centered and collaborative organizational forms, facing accelerated technological development, and complex health policy reforms. Healthcare in the 21st Century must align with the global values of being: safe, efficient, and accountable not only producing excellent technical outcomes, but also delivering outstanding patient experiences. These values engender leadership skills that have become becoming nearly impossible for self-taught physician leaders to manage, let alone comprehend.

There is growing empirical evidence that the direct involvement of physicians in health care management improves overall organizational performance (e.g., better patient safety, lower infection rates, lower readmission rates, improved efficiency and financial margins)[9]. Health organizations managed by clinicians with advanced leadership training can outperform health organizations led by lay-managers alone. Yet, health systems are falling behind when it comes to developing physician leaders who innovate and create value.

The Physicians Foundation has been committed to advancing the knowledge, skills and abilities of physician leaders to improve the care that patients receive. Between 2013-2015 nearly 40 leadership programs were funded to support new approaches and models to support

[9] Goodall, 2011: (http://www.sciencedirect.com/science/article/pii/S0277953611003819;): A. J. Dwyer, 2010 (A.J. Dwyer, Medical managers in contemporary healthcare organisations: a consideration of the literature; Australian Health Review, 34 (2010), pp. 514–522); and Veronesi et al, 2013 (http://www.sciencedirect.com/science/article/pii/S027795361200768X)

physicians who want to become leaders in their profession.[10] There is a tremendous opportunity for these programs to share their knowledge and expertise, to learn from each other's experiences and to establish a collaborative learning network.

Workshop August 17-19, 2015: Building a 21st Century Physician Leadership Curriculum

In response to the need to train physician leaders and the lack of emphasis on innovation in the health programs, Dr. Jon Chilingerian proposed a two-day conference, on "Building a 21st Century Physician Leadership Curriculum." The proposal was accepted and all of the physician training programs funded by The Physicians Foundation received invitations to attend the workshop. To help diagnose the current situation and landscape of opportunities and programs, each invitee was asked to complete a survey that described key elements of their program and to send out an anonymous survey on current challenges, opportunities and topics of interest to physicians in their regions.

There were three objectives of the two-day conference:

1. To identify professional gaps, physician leadership competencies and issues affecting physician performance;
2. To develop "universal" and ad hoc curriculum exemplars that reflect the growing needs of 21st century health care systems nation-wide; and
3. To share lessons learned, best practices and other innovative ideas.

On August 17-19, 2015, the Heller School at Brandeis University designed and hosted a conference at Babson University. Participants and experts presented new and blended distance learning technologies and topics of interest. A good deal of attention focused on use of field-

[10] The Physician Foundation has been supporting leadership program since 2010.

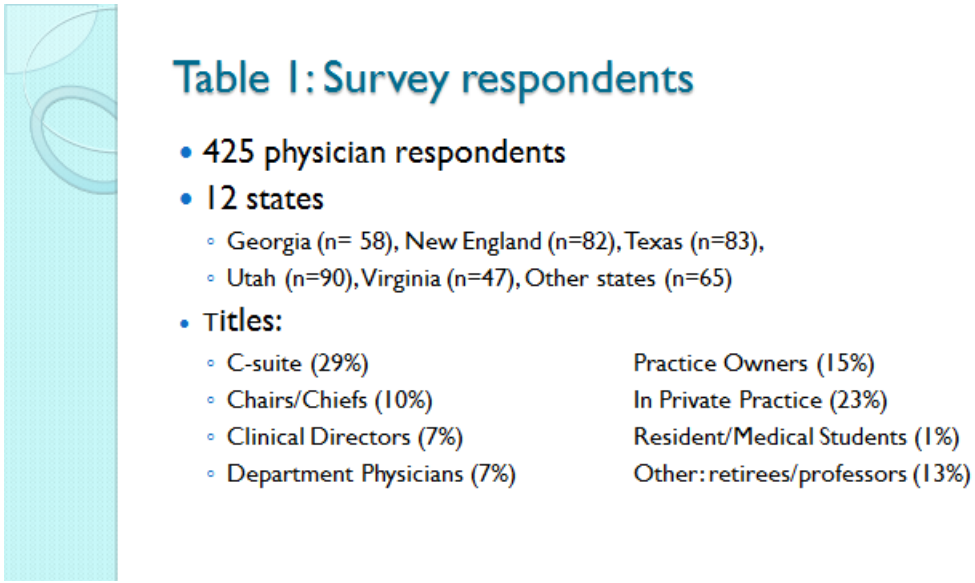
based instruction and diverse ways to teach many areas that fall under what is called health policy and health care management. A range of pedagogical approaches were discussed including: lectures, case studies, simulations, talks by clinical leaders, faculty-led discussions, group work, 360 leadership coaching, reflection papers, implementation essays and off-campus final projects.

This White Paper will report on the findings and recommendations from the workshop.

Physician Survey Results: Assessment of health care leadership curricula

Respondents

Programs funded by The Physicians Foundation were asked to send out a link to a physician survey developed by Brandeis University. The survey indicated that it was a "confidential" survey to assess the educational needs of physician leaders. Physicians from 15 states responded to the survey, with 460 physicians completing the survey (see table 1). The majority of the physicians worked in solo or private practice (39%), community hospitals (15%), academic hospitals (14%) and health care system-owned hospital (13%). Their titles included: C-suite (29%), private practice physicians (23%), chairs, chiefs or clinical directors (17%), practice owners (15%) and an assortment of professors, residents and others.



These physicians were asked a series of questions about the 2-3 biggest opportunities and the 2-3 biggest challenges they face as physician leaders, the leadership and management tools they use and to identify any topics, sessions or courses that help to address these opportunities

and challenges. Finally, they were asked in the context of preparing physicians for the future to rank order a list of 23 educational topics on a 5-point scale where 5=extremely important to 1=extremely unimportant. Each of these will be addressed.

Opportunities and Challenges

The physicians surveyed listed many opportunities and the list was aggregated into 13 themes. The top 5 opportunities identified were: 1) managing performance and change (improving patient experience and efficiency); 2) developing collaborative teams and the coordination of care; 3) discovering best practices with respect to quality and safety; 4) teaching and training physicians and managers about the changes taking place; and 5) redesigning of physician jobs that will promote satisfaction, autonomy, and professional growth.

With respect to physicians' biggest challenges, 11 themes were identified. Eighty-percent of the physicians identified managing their time and attention as the number one challenge. They highlighted all of the demands and time pressures, such as allocating time for administrative paperwork, leading other physicians, and caring for patients. More than half identified financial pressures such as insurance, reimbursement and billing as a second challenge. The third challenge identified was government intrusions and Obamacare. The fourth challenge was the multiplex of changes to the health care system such as value-based payments and pay for performance. The fifth biggest challenge was their lack of business knowledge and need for business training to deal with the challenges.

Leadership or Management Tools Used to Deal with Opportunities and Challenges

When asked what management and leadership tools they are using to deal with opportunities, many responded "we are doing our best" or "we do not have any tools." Some mentioned their leadership skills, CME educational programs, and collaborations or personal relationships. Likewise, when asked what management and leadership tools they are using to deal with their challenges, they said communication, interpersonal skills, self-taught or "I do not have any tools." The also said they relied on conferences and medical societies.

Physicians' Rank-Order of Important Topics

The physicians were also asked to rank 23 topics based on current training trends. These topics ranged from business subjects to data analytics, population health and physician payment reforms. The exhibit below identifies the topics of greatest interest to the surveyed physicians last August. The top 11 were: leadership, health care finance, organizational behavior, high performance teams, conflict resolution and negotiation, local health policy, quality and performance measurement, operations management, technology and informatics and strategic management.

Exhibit 1

Top 11 Physician Topics (n=425)		
Topics	Mean Total Responses	Percent 'Extremely Important'
Leadership	4.28	54%
Health Care Finance	4.27	53%
Organization Behavior	4.19	49%
Leadership Coaching and Mentoring	4.09	44%
Building High Performing Teams and Organizations	4.04	41%
Conflict Resolution & Negotiation	3.99	35%
State Health Policy	3.95	31%
Quality & Performance Management	3.94	34%
Operations Management	3.93	32%
Technology & Informatics	3.93	28%
Strategic Management	3.92	29%

The bottom five included: data analytics, project-based learning, population health, implementation science and marketing.

Exhibit 2

Bottom 5		
Topics	Mean Total Responses	Percent 'Extremely Important'
Data Analytics	3.73	23%
Project-Based Learning	3.69	22%
Population Health	3.68	26%
Implementation Science	3.61	17%
Marketing & Communication	3.56	17%

Program Survey Results: Assessment of Health Care Leadership Curricula

Respondents

Leaders of 26 programs across the country responded to the survey, with 25 completing the entire survey. Half of the respondents were from state medical associations or societies, and 35% were from foundations or non-profit organizations tied to medical associations. In addition, two respondents were from medical specialty societies, one was from an independent

nonprofit, and one was from a medical school. Most of the programs (62%) represented in the survey were established within the last five years.

Program Finances

Twenty-six programs reported on their financial performance. The majority of the programs charged some tuition. Although eleven programs charged no tuition and 7 programs charged nominal fees or between $1000 to $2,999 (4 programs). Four programs charged $4,000 or more. Regarding the overall financial results, sixteen programs reported that their costs were greater than their revenues. Six programs claimed to break even. And only one program claimed that they made a significant profit (revenues greater than $100,000 and costs below $99,000).

Program Characteristics

Physician leadership training programs come in all shapes and sizes. Nevertheless, they are all committed to educating and training physicians to deal with a complex and uncertain world. The majority of the 26 programs started between 2011 and 2015. 5 programs started between 2005-2010 and 5 between 2000-2004. Most programs run once a year, 7 programs run five or more times a year. Each training session occurs over 8-9 hours each day, and each cohort has about 30 or fewer physicians.[11] The 26 programs target private practice MDs (40%), department MDs (23%), medical students and residents (10%), and clinical directors and executives (28%). Eighty-one percent of the presentations are made by subject matter experts, and 58% of the subject matter experts are university faculty members. Most programs use lectures (88%), the case method (64%) and panels (52%). Only 36% use simulations and 32% have on-line

[11]. Six programs have 30-59 people in each cohort and 1 program trains 60-89 people.

components. One of the most important characteristics of 24 of the 26 programs is offering CME credit. We observed general trends towards programs that ran one program for less than a week's worth of full day sessions a year with smaller-sized cohorts, though there were significant numbers of programs bucking each of these trends. For example, 53% of programs had only 1 cohort of students per year, with another 19% with only two or three cohorts, but 27% had five or more per year. In terms of length, 69% ran programs that lasted less than seven days, with 12% running programs of ten or more days. Most (77%) used 5-8 hours sessions, though 19% ran sessions lasting less than 4 hours. Finally, 73% of programs had cohorts of less than 30 people, though 1 program had cohorts with more than 60 participants.

In terms of the people involved, programs identified their participants as primarily practicing MD's (40% were private practice MD's and 23% were department MD's). Participants in leadership roles included clinical directors (12%), department chairs (12%) and C-suite executives (7%). Programs used a variety of presenters, including subject matter experts (81% of programs), clinical practitioners (58%), university faculty (58%) and executives and managers (54%). Most (85%) used 6 or fewer different instructors, though 12% used ten or more.

Presenters used several different forms of instruction, with the most popular being lectures (88% of programs), the case method (64%) and panels (52%). In addition, 36% used simulations and 32% used online teaching. All but two programs offered CME credits associated with their sessions. Finally, regarding evaluations of the programs, more than three-quarters of programs used session evaluations, course evaluations and presenter evaluations, though less than half

used participant interviews or long-term follow-up.

Responses to financing and tuition questions raised important questions about program sustainability, with only 27% of programs reporting ranges of revenues that were equal to or greater than their program costs. About two-fifths (42%) of programs were tuition free, though 27% charged $2,000 or more.

Ranking Topics Important to Physicians: Programs versus Participants

As discussed previously, last spring (2015) programs funded by the Physicians Foundation and a national sample of physicians were asked to rank the topics. The sample of 420 physicians ranked the top 5 topics as: leadership; healthcare finance; organizational behavior; leadership coaching; and building high performance teams. There was a strong correlation between the programs and individual physicians. Four out of the top 5 topics were the same, and 9 of the top 11 topics were the same. Physicians put significant emphasis on financial topics (payment & finance and accounting topics) and leadership coaching. In the survey, programs asked for help on improving both of these topics.

Areas for Program Improvement and Success Factors

When the programs were asked what areas they think need improvement, three themes emerged: Curriculum development; Pedagogy; Target Marketing; and Long Term Follow-up. To improve the Curriculums, programs identified topics like leadership training, physician health and wellness and team building. To improve Pedagogy, the programs identified a need to find "top speakers," best cases, blended learning and on-line resources and dynamic teaching methods.

Finally, the programs asked for help on the subject of reaching more participants and getting help on “how to market” and “how to follow-up.”

When asked what makes a program successful, respondents listed critical success factors such as: 1) networking among the participants (6 programs); 2) quality of the programs (3 programs); 3) small size (2 programs); and 4) random factors such as role playing and case studies, using physician leaders to teach and working with established executive education programs. When asked about the most innovative sessions, a laundry list emerged without much confirmation. The list included negotiation sessions (6 programs), mindfulness (3 programs), and other topics such as: media training, meeting sitting legislators, risk mitigation and health disparities.

Range of Topics Taught by Grantees

The range of topics that have been taught by grantees is shown below. The focus aligns with what the survey suggests physicians interested in leadership training want to learn. Leadership, teamwork, communication, business management, change management, negotiation and conflict resolution were taught in 1/3 of the program. Leadership and teamwork were taught in more than half of the programs.

Exhibit 3

Range of Topics Taught by Grantees	
Course Name	**Tally**
Topic 3: Leadership Practice/Decision Making	18
Topic 2: Teamwork/Collaboration/Teambuilding	15
Topic 9: Communication/Giving Feedback	14
Topic 18: Organizational Management/Business Skills	12
Topic 5: Change/Trend Management	11
Topic 12: Negotiation	11
Topic 4: Conflict Management	11
Topic 8: Systems Thinking	9
Topic 11: Government/Policy/Legislative/Legal/Advocacy	10
Topic 7: Emotional/Stress Management and Intelligence	8
Topic 14: Finance/Billing/Modeling	8
Topic 15: Listening Skills	6
Topic 17: Personal/Self-Assessment	7
Topic 20: Clinical Quality Improvement	7
Topic 1: 360 Degree Assessment	6
Topic 13: Media Training/Marketing	5
Topic 22: Mindful Leadership	5
Topic 27: Data Management	5
Topic 10: Storytelling	4
Topic 21: Population Health	5
Topic 24: Determining Core Values	4
Topic 6: Coaching/Mentoring	4
Topic 25: LEAN	3
Topic 19: Safety/Risk Management	2
Topic 23: Healthy Body and Mind Practice	2
Topic 16: Volunteerism	1
Topic 26: Self Awareness	1

Strengths, weaknesses, opportunities, and threats

As respondents analyzed their programs, many had unique highlights and concerns. Still, certain commonalities emerged. Six programs felt that their most innovative session focused on negotiation and conflict resolution, and three singled out their mindfulness-in-leadership sessions. In terms of what brought programs success, six

respondents identified the networking opportunities they provided, while three others identified the quality of their presenters. The most common area of improvement noted was achieving higher and broader attendance. Additionally, nine respondents reported wanting to continue to learn more about leadership training. Finally, 64% of programs said that there were competing programs that they had to contend with within their state or region.

LESSONS FROM THE CONFERENCE

The Physician Leadership Conference provided an opportunity for grantees to share and learn from each other, as well as begin to build consensus on best practices moving forward. While there was a broad range of program experiences, areas of agreement and consistency were evident. Summarizing the grantee and physician survey results, the breakout groups' conversation notes, and the specific experience of Brandeis' program and other longstanding programs, we propose a series of foundational recommendations for future physician leadership training programs.

Physician Challenges

Along with the grantee survey, the national physician survey gave us a window into the opportunities and challenges doctors report facing in their everyday work life. While the list is long, topics group into general categories and can serve to determine the shape and priorities of future program curriculum. The survey respondents specifically highlighted the following challenges:

Patient Care including patient access to care, time to provide care, quality and safety, patient experience and advocacy, models for managing behavioral change and preventative care, patient education and community engagement, primary care as gatekeepers, managing relationships with subspecialists, and moving from non-evidence to evidence-based care practices.

Business of medicine including changing payment models from volume to value, the role of insurance payors in care delivery, physicians as employees, consolidation of provider practices, large mergers and acquisitions, increasing competition, the role-out of EHR's and Meaningful Use, and the role-out of ICD 10 and new billing expectations.

Government and legislation including the impact of the Affordable Care Act, Accountable Care Organizations, and the implementation of population-based care-on-care delivery, understanding the impact of changing federal and state policy, knowing how to educate and advocate at the legislative level, and working within a "broken" and partisan system.

Administrative Management including the burden of data entry, multiple EHR systems within single institutions, new kinds of required metrics and data collection, increased tension between administrators and physicians, decreased financial resources, physician recruitment and retention, the administrative impact of mergers and acquisitions, and the role of technology and information systems in managing the business of medicine and delivering care.

Financials including changing payment, reimbursement and earnings structures, the impact of rising malpractice costs, increasing financial constraints within care delivery systems, the need to understand and manage increasingly complex budgets, and financial analytic skills.

Leadership including the skills, knowledge, and experience to manage and lead in light of all of

the above. The ability to lead successfully remains the number one priority for physicians. This includes the ability to protect the doctor/patient relationship, shape policy and legislation, contribute to the strategy of care delivery systems, effectively carry out change initiatives and process improvement, build cross-functional and collaborative teams, manage conflict resolution, engage providers in issues beyond clinical care, innovate for improved quality, efficiency, and patient experience, and communicate within increasingly complex matrices.

While stepping up to the challenges and opportunities faced, physicians must also deal with the escalating pressure of work/life balance and managing careers that span clinical care, research, and administrative roles. Strong leaders, therefore, must also focus on preventing physician burnout and supporting resiliency of both senior and junior practitioners. Balancing work and personal lives is a constant battle with physician burnout and depression reaching a level of crisis. Given this reality, participants felt one of the most important roles of physician leadership programs was to bring physicians together to reflect and build collegial relationships, peer support, and friendships.

Recommendations For Physician Leadership Training Program Design

Length, number, and frequency of programs: The sweet spot for program design is approximately 2.5 days, running from Friday through Sunday lunch. Almost any design of this time frame, that begins sometime on a Friday and continues through Saturday or Sunday

morning, can work. Friday's are easier for physicians to take off and finishing by Sunday lunch allows for some personal time during the weekend. While single-weekend programs were common, participants agreed more in-depth learning and coverage of all of the important topics requires programs to run over three to six weekends with meetings spaced no further apart than every two months. This also allows for stronger collegial relationships and greater commitment and engagement of the participants. Four to eight hours of active programming each day is a common practice and provides enough time to present topics well. If a program is going to be only a single engagement, it is recommended that the focus be on one or two topics done well rather than trying to cover too many areas in a short time.

Given that the recommendation is for deeper learning, the other recommended model is seven to ten-day intensive learning courses. Most physicians are given a week of continuing medical education learning time (see CME recommendation below). These longer, more intensive, and preferably residential programs, allow for quite comprehensive curriculums and strong bonding amongst the participants.

Innovative Idea

Plan a multiple-weekend series of programs in which the last weekend coincides with a large conference. Cohort participants can then speak at, present posters, or facilitate panels in the larger meeting, adding to their experiential learning. They also become ambassadors of the leadership training program they have just completed, creating buzz, interest, and enthusiasm for the program.

Size and make-up of cohorts: Cohorts of approximately 30 participants is a reasonable and productive size for physician leadership programs. This is big enough to allow for breakout groups and teamwork while being small enough that participants can get to know each other,

share a breadth of experience, and build actual relationships. Large cohort sizes also do not lend themselves to effective implementation of dynamic learning techniques, which is important for the success of these programs.

There is no ideal participant mix for physician training programs. It is more important that program designers take advantage of the mix that emerges. Whether grouped by level of experience, specialty, or open to all, the curriculum design should reflect and utilize the cohort mix. For example, mixed aged and specialty cohorts lend themselves to including both traditional and reverse-mentoring in the program and the participants learn from the breadth of experience of the group. Young doctors, who tend to be the most engaged in the learning process, also help energize the programs. However, specialty or age-based cohorts also have advantages as participants easily identify with each other's experiences and can focus on shared career and work/life challenges.

Curriculum Topics

The grantee and physician surveys, and the conference breakout groups were consistent in choosing the topics felt to be most important for training physician leaders. While many grantee programs focus exclusively on leadership development, the recommendation is that physician leaders need to gain fundamental knowledge across several critical areas in order to be successful. Therefore, we recommend that programs cover the following topics:

- Leadership
- Health Care Finance
- Organizational Behavior
- Conflict Resolution and Negotiation
- Leadership Coaching and Mentoring
- Building High Performing Teams
- Quality and Performance Measurement
- Operations Management
- Strategic Management
- State with some National Health Policy

Physicians also listed technology and information systems within their top ten focus areas and certainly the role of technology, Big Data, and information management within health care will only increase over time. Furthermore, several sub-topics were frequently discussed and it is worth considering incorporating them into curriculum design. These topics include work/life balance, stress management, mindfulness training, communication and presentation training, project management, and government and board relations.

Physicians are very data and evidence-based thinkers and learners. It is critical to bring the science of management into teaching as much as possible. This especially includes topics such as mindfulness and emotional intelligence, which are equally important for success but can generate skepticism unless the science behind the knowledge is presented. Content should include as much research-based information as possible and presentations should highlight critical studies. In addition, examples, cases, models, and frameworks should reference or be applied to clinical care delivery whenever possible. This allows the learning to be relevant and more easily translated into the physician's daily work. Physician leadership programs need to be committed to building a combination of business knowledge, understanding management

science, and leadership development in order for physicians to succeed at leading at a time when the industry is going through so much disruption and transformational change.

Faculty

Physician training programs that cover these high priority topics require a robust faculty with both broad and deep knowledge. Several conversations in the breakout groups revolved around the advantage of affiliating with an academic university in both the planning and implementation of programs, something we highly recommend when possible. It is also important to have faculty that are actually engaged or consulting in the health care industry whether they are academics or subject matter experts. Most programs involve four to six presenters. This is an appropriate number for weekend programs, although week-long programs will usually need eight to ten faculty. In addition, expertise is not usually enough. Teaching is truly an art and finding talented program faculty should be a priority. It was suggested that The Physicians Foundation begin to build a database of the names and expertise of talented faculty that could be called upon to teach in programs throughout the country.

In executive education in general, didactic lecturing should not be the only, or even preferred, teaching method. Faculty needs to be comfortable with and able to use multiple teaching modalities based on active learning both to keep physicians engaged and the curriculum relevant and useful.

Pedagogy and Teaching Methods

While physicians are very capable of independent learning, developing the business knowledge, leadership, and management skills to be successful in such a complex industry cannot be developed simply through reading. Furthermore, physician leadership training programs will have a limited impact if their curriculum is simply taught through didactic lecturing. Action learning helps physicians apply new knowledge to their specific work situation and forces faculty to plan a practical and not just theoretical curriculum. The grantee survey results indicated that 80% of programs use a lecture format and 64% use the case method. However, only 36% use either simulations or other interactive teaching methods such as project-based learning, role play, or even small group discussions. To be more effective and keep physicians engaged throughout the programs, lecturing needs to be only one aspect of the design.

We recommend that material be presented through a wide variety of modalities. Health care based case studies, simulations, projects, team-based learning, peer-to-peer learning, breakout group discussions, online tutorials, role-playing, storytelling, interactive exercises, and shadowing are all methods that bring information to life. It is our recommendation that grantees link their content to specific teaching modalities and demonstrate expertise in using a wide variety of methods.

On-line and or blended curriculum design is another successful approach. While some programs have developed on-line learning components, it is still a small part of current training. Given the time constraints of practicing physicians, however, it is likely that on-line learning will become another important part of successful programs. Although several programs are making inroads,

doing this well is a challenge. There were multiple discussions at the conference focused on trying to develop some shared, on-line curriculum segments on topics that might lend themselves to this learning format. However, no conclusions were reached, and this will need to be discussed further in the future.

Innovative Idea

Day at the Legislature – Several programs have innovative ways to help physicians gain the knowledge and experience needed to advocate at the local, state, and national level of government. The programs begin with training provided by former members of congress, lobbyists, and legislators. Teaching focuses on staying on message, media presence, and effective communication skills. Physicians then attend health care related legislative sessions serving on panels or providing expert testimony. Once trained, state societies can also call on their "shining star" physicians for other advocacy opportunities. (Note: When speaking for an organization, it is important to remind physicians that the views they express must align with those of the organization who has requested their involvement).

Innovative Idea

Peer Support Groups – Several grantees initiate peer support groups during their programs. The groups can be formed as part of team projects in which members work together but also have time for discussing relevant issues and shared experiences. In addition, peer groups can be formed simply to discuss chosen topics and provide support. When physicians voluntarily commit to the groups, grantees report very low dropout rates and some groups continue long past the completion of the program.

Innovative Idea

Invite the Stranger into the Room – The role of cross-functional, multidisciplinary and collaborative teams is central to the changing models of health care delivery. The hierarchy and traditional roles within medicine are being broken down as physicians, nurses, mid-level practitioners, and ancillary professionals work together in new ways. One way to help physicians step away from a siloed perspective is to promote the perspectives of various providers on given topics. One program creates panels of mixed professionals who speak about a single issue, topic, or problem within care delivery. This sharing of perspective proves to be very illuminating and a positive experience in creating greater respect,

Assessments

Almost every program used some sort of personality assessment or quantitative 360 tool as a way to help physicians build self-awareness and learn how their leadership is perceived by others in their organization. This kind of exercise is often the first time physicians have had direct and comprehensive feedback about their ability to lead, manage, communicate, and interact with others. It also pushes physicians to actively think about and reflect on the relational vs. task implementation aspects of their work. There was strong consensus that assessments are well received and successful. Those programs devoted only to leadership development often build their curriculum around a specific tool and leadership model. For most, however, the tools are simply one part of their program and usually are used early on. In addition, there can be creative and impactful ways to report feedback that also encourage peer support and strengthen new relationships.

There are a variety of excellent tools available and some used by the grantees include:

The British Healthcare Leadership Model

http://www.leadershipacademy.nhs.uk/resources/healthcare-leadership-model/

Insights

https://www.insights.com/564/insights-discovery.html

The Leadership Versatility Index (LVI)

http://kaiserleadership.com/about-the-lvi/

The Global Executive Leadership (GELI)

http://www.kdvi.com/tools/16-global-executive-leadership-inventory

Myers Briggs (MBTI)

http://www.myersbriggs.org/my-mbti-personality-type/take-the-mbti-instrument/

The Leadership Practice Inventory (LPI)

http://www.leadershipchallenge.com/professionals-section-lpi.aspx

The DiSC

http://www.everythingdisc.com

The EQi-2.0

http://www.hpsys.com/Emotional_Intelligence.htm

Innovative Idea

Reflective Circles – Giving physicians the opportunity to reflect and build supportive relationships often requires more than just time to socialize. One program opens and closes each day with "Reflective Circles" during which participants talk about such things as their take-aways from the day before, how they will apply what they learned, what challenges might arise, and what help they could ask for it needed. Others use the time to share work experiences, encourage self-reflection, and facilitate peer-to-peer support. One program asks physicians to go through their daily calendar to carve out specific time for thinking and reflection about their work and explains that, "If you can't think, you can't lead." However these opening and closing circles are used, it is important to ensure they are safe places where confidentiality and ground rules are agreed upon at the outset.

Physician Leadership Coaching

Along with the use of individual and 360 assessment tools, conference participants agreed that leadership coaching is a valuable component of physician development. While training programs with strong action learning can build physician knowledge, developing new leadership behaviors and skills to implement on that knowledge within the complexities of health care systems remains a significant challenge for many physicians. Organizations are using executive coaching more and more as a critical tool for developing their physician leaders. Within physician leadership programs, coaching can be integrated into the curriculum in a variety of ways. Some programs create fully dedicated retreats on interpersonal development using trained coaches to facilitate groups and work with participants. Others use coaches to facilitate the feedback of the assessment tools, to support ongoing team project work, or to deliver content on topics such as conflict resolution and emotional intelligence.

Innovative Idea

360 Group Experience – One program that uses the GELI creates a day-long group experience in which physicians share their 360 feedback and support each other in using the report to create specific developmental goals. The participants complete the 360 prior to the training program. They are given the report the night before. Each group of five physicians is facilitated by a professional coach who establishes safety and ground rules with the participants. Each physician then takes twenty minutes to draw a self-portrait map that expresses six dimensions of themselves: their head, heart, hands, past, present, and future. When it is their turn, the group shares their observations about the drawing before the physician has explained it. This is followed by the individual's explanation of their map. Following the sharing of the map, the person is offered the opportunity to share and discuss their feedback report. Both of these experiences promote broad and deep discussion and a strong bond amongst the group members. The physicians then become peer coaches to each other between the weekend cohorts with a focus on supporting the achievement of their chosen development goals.

As the grantee survey indicated, all participants use some kind of evaluation to gather feedback on their programs. The most common are surveys at the end of the sessions, end of the course, and about each presenter. Less than half of the programs interview the participants or do any long term follow-up to determine program impact. At the very least, we recommend that grantees try to gather feedback six to eight weeks after completion of the program. For programs that are spread out across eight months to a year, another option is to give a quantitative 360 leadership assessment at both the beginning and end of the program to see how the physician's leadership has changed.

Marketing

One area of significant challenge to the conference participants was how to successfully market their programs not only to recruit new participants, but also to keep physicians engaged in various learning programs over time. Through the session on marketing, the conference provided some basic fundamentals on successful marketing campaigns. However, it was clear from the discussion groups that there is no single, most successful kind of marketing campaign for physician leadership training programs. A multimodal approach that is targeted to specifically identified audiences is best. Targeted mailings, newsletters, phone outreach, and booths at medical conferences can all be effective. In addition, highlighting individual physician's careers and their involvement in your physician training program to spotlight their "leadership story," or other kinds of "spotlight" stories, can serve to both advertise your program and emphasize the need for leadership training.

Announcing a graduation ceremony at the end of a program through regular grantee communication channels is another way to bring attention to what you do. Alumni receptions, dinners, and events, especially if participants can bring interested colleagues, help keep physicians involved with you, engaged with each other and also help create buzz around your programming. Grantees have not used social media platforms very much although there was agreement that more should be done in this area, especially with young physicians. Lastly, finding participants during programs to be "brand ambassadors" can be a powerful tool in your marketing strategy. Ambassadors can spread the word, engage in various social media platforms such as Twitter, Facebook, and Instagram both during and after programs, and can become spokespeople for you within their own organizations.

Tuition and CME

The Foundation should discuss the issue of tuition. CME is straight-forward. Every program should offer CME credit as an incentive. We recommend that no programs be funded without CME credits.

FINAL RECOMMENDATIONS

Based on the survey and the discussions at the conference, the 26 programs came to the conference to learn more about leadership training, marketing and translational work. They were looking for new ideas, and ways to stay on the forefront of professional development, and effective and sustainable quality improvement. Some came to learn about innovative funding models and to discover ways to teach physicians how to have an impact on health policy.

Requirements for Effective Physician Programs

There are several basic requirements for an effective program (See Exhibit 3 below). The most important step is to determine the needs of the target physician groups you want to train. See Exhibit 4 below for a rank order of topics.

Exhibit 4: Requirements for Effective Programs:

1. Understanding local physician needs, and translate into a set of topics
2. Determine core program outcomes, select the topics and set the learning objectives
3. Decide what topics & subject matter experts
4. Target and select physician participants
5. Develop an integrated learning sequence: trams and session sheets and instructional design
6. Decide where and how the education: on-campus, on-line, blended, synchronous/asynchronous, etc.
7. Coordinate the program
8. Evaluate the program

The Proposal Checklist.

To help potential grantees, we have developed a basic checklist and some forms that will guide the development of the proposal.

Exhibit 5

Draft Checklist for Grant Review Process

Program Structure #1	
Length	2 to 2.5 days Friday through Sunday
Number	3 to 6 weekends
Frequency	Every two months
Size-Marketing	See Program Structure #2

Program Structure #2	
Length	6 to 10 days (preferably residential)
Number	1
Frequency	Annual
Size	30 to 40 participants
Participant Mix	Mixed or separated by career stage
Priority Topics	Leadership Health Care Finance Organizational Behavior Conflict Resolution and Negotiation Leadership Coaching and Mentoring Building High Performing Teams Quality and Performance Measurement Operations Management
Faculty	Academics and subject matter experts with practical experience and strong, engaged teaching style
Teaching Methods	Action learning including some lecture but also cases, simulations, small group discussion, role playing, storytelling, interactive exercises, group learning, team projects
Use of personality and/or 360 assessments	Yes for both
Leadership Coaching	Yes
Evaluations	Session, course, faculty, and long-term
CME Credit	Yes
Marketing	Multi-modal approach including use of social media and targeted to specific audiences

The last two recommendations will focus on curriculum design and evaluation.

How to Design a Physician Leadership Curriculum: Course Planning Document

We suggest that applicants for grants submit a course planning document to ensure that the proposed program maps program and course outcomes with topics, task assignments, and learning objectives. Course topics identify tasks while assessments are developed to meet the learning objectives. There are three benefits: 1) match the desired objectives to relevant course content development; 2) ensure that assessed content aligns with desired goals that can then be used to measure student and program success; and 3) to provide direction for learning.

The course planning document (see below) has three key elements: 1) a topic title and overview; 2) the tasks with all assignments and session resources; and 3) key learning objectives.

Each of these will be discussed separately.

Topic Title and Overview: We suggest adding a title with a brief description of a couple of sentences to introduce physicians to what will be covered for this topic. Topic descriptions should speak to what physicians will be examining for the topic and what skills will be acquired, rather than speaking to assignments.

Topic Task List: The task list should include all required and optional readings, cases, questions, and tasks to be completed that are related to the topic. Tasks and resources are best listed in a sequential manner and in digestible chunks to help scaffold the information for better retention of the material. Short descriptions of each task are important to

provide context to what is being covered in this topic area and they help physicians assess how much time they will need to dedicate to each task (work load). A task list also provides clarity of what resources are used with each task by placing the resource in proximity (link to or location identified) of the task description.

Key Learning Objectives: To focus learning, we suggest identifying learning objectives (LO's) for each topic. It is desirable to align everything within the course around program outcomes and objectives to ensure relevancy to the learner and a point of reference to measure a student's success. Each LO is then mapped to a program outcome and also to a course task in the task list on the left (as shown in Exhibit 6 below).

It is important to frame each resource with a brief description of what physicians should focus on in each of the readings/videos in the course as they pertain to the week's topic. All content in a course should be directly relevant to course outcomes, and delivered to the learner in an accessible format. Instruction of complex topics should bridge theory to practice and lead to direct application and/or connection to physicians' goals (e.g. on the job/real world application). In the online environment content should be presented in easy-to-retain pieces; and written for screen-based viewing.

To ensure that there is a mapping of programs and course outcomes with learning objectives, programs should fill out a **Course Planning Document** (see below).

Exhibit 6: Program Planning Document

Topic 1 <Title> **Add Session Description**	
Task List (assignments and resources) **1-1** **1-2** **1-3**	Learning Objectives
Topic 2 <Title> **Add Session Description**	
Task List (assignments and resources) **2-1** **2-2** **2-3**	Learning Objectives
Topic 3 <Title> **Add Session Description**	

Example of a Topic

Topic One

Title: Strategic Thinking and Decision Making: The Role of Clinical Leadership

Description

During these residency sessions, you will be asked to think analytically about strategic decision making as a leadership competency. Strategic thinking helps us to understand and interpret how "patterns of investment" over time affect organizational capabilities. These residency sessions will focus on two processes: 1) the rational process needed to reach a high quality decision; and 2) the relational process – how we engage and interact with each other to build commitment to strategic goals and decisions.

Topic: Three Learning Objectives	
Experience how groups make decisions under uncertainty and time pressure	SO1
Identify decision traps and biases when making decisions	SO1
Introduce concepts and tools to improve decision making processes, such as decision models, stakeholder analysis, and SWOT analysis	SO4

Session Outcomes (SO):

- **SO1:** Evaluate individual, group, and organizational issues from a behavioral science point of view [**CORE 1c**]
- **SO4:** Examine the roles of a clinical leader as a strategic thinker and instrument of justice, ensuring that decision makers diagnose situations prior to determining goals, alternatives, risks, and trade-offs [**CORE1d**]

Exhibit 7: Task List and Associated Instructional Resources

Task Number and Title	Task Description & Associated Instructional Resources (Title, Link, Description)
1-1 Read: Speed Ventures Case Studies	Read Speed Ventures Cases A, B, and C. While you read these cases, consider the following questions: • Based on the provided information, do you feel as though the car should race? Why or why not? • Think about the main problems present in these cases and analyze the present situation of Speed Ventures. Associated Files: Speed Ventures Case A, Speed Ventures Case B, Speed Ventures Case C
1-2 Complete: Speed Ventures Questionnaire	After you have read the three Speed Ventures cases and pondered the above questions, complete the provided Speed Ventures Questionnaire. Be prepared to discuss your answers to the questionnaire when you come to the second residency session and talk about why you made certain decisions with respect to the presented case.
Required Resources	
1-3 Article: Why Good Leaders Make Bad Decisions	Read this article that warns leaders to avoid "fast thinking" based on recognizing patterns in a situation when self-interest, emotional attachment, and misleading memories lead to bias. Associated File: Why Good Leaders Make Bad Decisions
1-4 Article: The Discipline of Strategic Thinking in Healthcare	Read this article that identifies the conceptual and methodological challenges associated with strategic thought. Associated File: The Discipline of Strategic Thinking in Healthcare
1-5 Article: Decision Trees	Read this article that introduces a decision support tool that uses a branching method to illustrate the likelihood of a discrete set of outcomes. Associated File: Decision Trees

Example of Program Outcomes (PO):

CORE 1: LEADERSHIP, PEOPLE, TEAM, & CULTURE

Physicians completing this program should be able to:

CORE1a: Prioritize and **build** high performing, integrated health care teams.

CORE1c: Demonstrate leadership that is based on self-awareness, perception of others, relational dynamics, and fair process.

CORE1d: Identify and analyze difficult organizational and interpersonal situations, **reflect** on potential consequences, and **develop** productive solutions and alternatives that meet strategic goals and objectives.

CORE1e: Plan and **execute** change management and other initiatives **demonstrating** vision, high quality project management, and documented results.

CORE1f: Observe other leaders in real situations.

CORE1g: Reflect on one's progress as a leader, **deconstruct** one's biases.

CORE1h: Observe and characterize the impact of leadership and culture on individual, team, and organizational engagement and performance.

CORE1i: Differentiate between different cultures in your organization.

In programs with a residency session, time is spent delivering new content, and elaborating on content learned outside of class. This allows physicians to delve deeper into a current topic and apply or practice what was learned with support from others. Collaborative, group activities, and work sessions are best delivered in this environment.

In the on-line sessions, physicians use a learning platform. Time is spent consuming new information via readings, videos and narrated presentations. It is for on-going collaboration and discussion, and repository for all course content to review and reference. It also provides a framework for the organization of the course and course sequence and a connection or map to the full course scope.

Residency Sessions:

- Case study analysis discussions
- Master-classes from physician experts-in-the-field
- Focus on key take-aways
- Alignment of tasks/assessments to learning objectives
- Coaching sessions
- Poster/Presentation sessions

On-Line Learning:

- Webinars with live presentations
- Readings, video/presentation viewing
- Post-class on-line discussions
- On-going collaboration, sharing/editing of documents
- Reflection exercises
- Completing assessments, exams, self-checks

Physician-Centered Learning: Group Work and Active Learning Techniques

There was a good deal of conversation throughout the workshop on sharing ideas about teaching physicians and the tools for teaching. To maximize engagement, physicians should feel they are in control of the learning process and not have information simply tossed at them. Leadership content needs to be structured in an integrated learning sequence. Physicians will learn better if they can get direct feedback in an intuitive learning environment. The sessions should allow learners to make direct connections with what they already know and identify the gaps in what they don't know. The faculty can guide them to obtain the knowledge they want to acquire.

Various pedagogical tools were reviewed: lecturing, leading a discussion, case studies, simulations, and role playing. Lecturing to smart, creative people is not an ideal learning environment. People begin to feel isolated unless steps are taken to reduce the distance between a "talking head" facilitator and the physicians. It is important that a sense of a learning community is created by personalizing lectures, encouraging participation by asking many open-ended questions, and structuring "ice-breaker" sessions for people to get to know each other informally before the formal sessions begin.

Adults learn best when they are participating and actively involved in a face-to-face process

and when there is group work involved (Davis, 1993). Formal learning groups should be established at the beginning of a program and used even in sessions with a lecture format. There are many alternatives to lecturing. Three examples of active learning will be discussed: 1) case method; 2) role-playing; and 3) simulations.

The Case Method. The *case method* and *flipped classroom* approach are suggested as a primary tool for effective physician programs. In the flipped classroom the physicians read a health care case or view a short video case or lecture before the session. In-class time is devoted to an introduction of concepts and tools. Group work and plenary discussions are used to discuss the case and the facilitator avoids lecturing, but poses questions and probes.

The case method shifts the focus of instruction from the instructor to the physician. A good case brings reality into the classroom by telling a story that provokes discussion. Physicians read the case in advance and try to apply analytic concepts and tools. It encourages participants to take a position on a tough issue, challenging problem, or an intriguing opportunity. It acknowledges the physician's voice as central to the learning experience. Thus, physicians are given more freedom to choose what they will learn, how they will learn, and how they will assess their own learning. In this approach the faculty take on the role of facilitator.

Role-Playing. *Role-playing* starts with a real situation in which the students must improvise an interaction with real dialogue between two or more characters in the situation. It is possible to select physicians in the class to assume the role of various characters during a case study discussion to resolve the focal issue. This method engages the entire class, as

they are able to visualize events, utilize interpersonal communication, and experience conflicting ideas.

Simulations. Computer or paper-based simulations are commonly used to teach group problem-solving, effective decision-making, and techniques for forming teams. They allow students to experience the situation and apply the concepts. Simulations are designed so that the physicians must deal with ambiguity, risks, and assumptions. To do well physicians have to work together to choose the correct strategy and tactics. (Human Synergistic has many excellent business and management simulations that can be purchased on-line).

Pedagogy:

- Reflection/Inquiry exercises
- Guided discussion and reading questions for student-to-student engagement
- Peer coaching/group work
- Pick your own case studies/readings tasks/assignments
- Process Improvement Project work sessions
- Search and discover quality management exercises

Program Evaluation and Long Term Follow-up

Evaluation is necessary to determine the physician's comprehension of the subject matter, enabling the programs to gauge how and what they are learning. In addition, it is important to pinpoint weaknesses in topics, workloads, facilitators, and the learning environment, as well as the support staff and logistics. The most widely used method of evaluation is the end-of-the program questionnaire. The second most widely used tool for evaluation is obtaining "fast feedback" to canvass how well the program was received and to make some mid-course corrections. These are informal conversations with random participants or the entire group that might take place on a daily basis.

Program evaluation is required so you can gather information on how well students are learning the materials and the effectiveness of the program. Evaluation enables grantees to determine whether or not there was the right impact and to ensure the topics and learning objectives are aligned with the core program outcomes. As a grantee, there are many ways to spend time and money, so it is important to evaluate which of those decisions were effective. Evaluation makes programs more accountable to students, by gauging what they are learning. Additionally, evaluations help programs learn how to improve.

Kirkpatrick & Kirkpatrick (2007) identified 4 levels of learning and suggest that all four levels should be evaluated. The four levels are: 1) reaction; 2) learning; 3) behavior change; and 4) results.

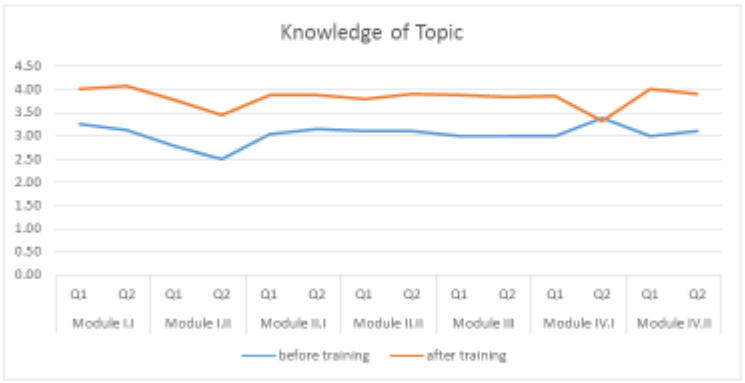
Reaction. Level one is the immediate reaction to gauge the physician's experience, relevance, and satisfaction with the program. Level one measures reactions with respect to content, presentation, location, food, facilities, directors, coordinators, faculty, etc. The measures are referred to as the "smile" sheets at the end of the program, but some evaluations can take place before and after the program.

Learning. Level two, focuses on the quantity of knowledge appropriated, and whether the learning objectives were met. It does not measure the ability to use the information. The measures would include interviews after the program, pre-posttest, or before/after didactic tests. The exhibit below shows an example of the system used by the North Carolina Medical Society to measure the knowledge acquired before and after the program.

Exhibit 8

Exhibit X. North Carolina's Evaluation System

Table 3: Knowledge of Topic



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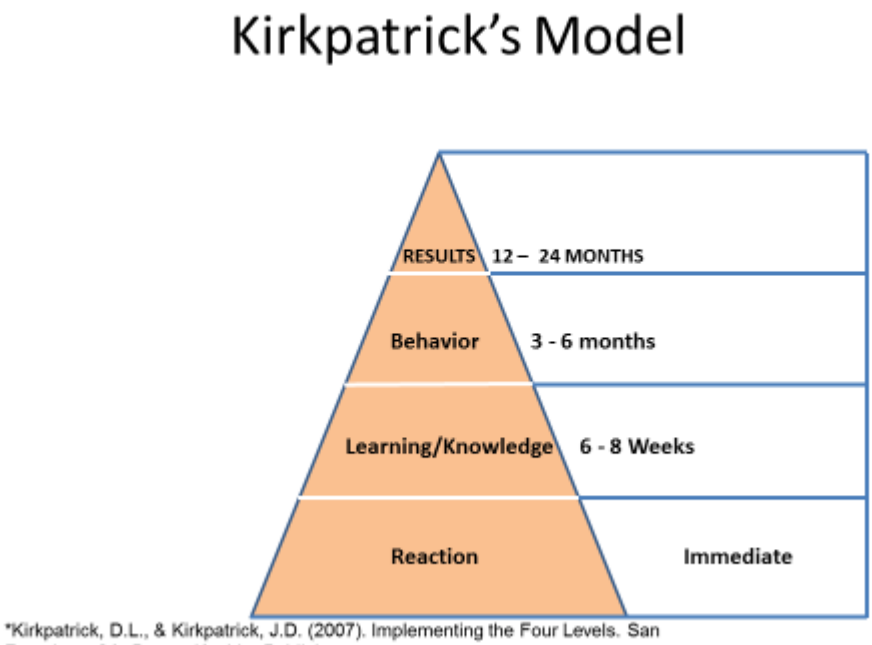
Behavior. Level three focuses on long-term behavior, measuring the degree to which the participants applied what they learned during training when back on the job. The focus is on changes in attitudes, new patterns of attention and action, new patterns of communicating, new assumptions/beliefs, and ability to diagnose and influence. The approaches include multi-rater feedback & coaching sessions, interviews with the physicians and their bosses, colleagues, and direct reports. However, this is rarely done.

Results. Level four focuses on the overall effectiveness and performance in the physician's direct areas of responsibility directly related to the training and education. Level four concentrates on the degree to which targeted program outcomes occurred, which includes better patient experiences, efficiency, attitude changes, collaborative teamwork, etc.

Kirkpatrick & Kirkpatrick (2007) create a hierarchal model of evaluation (see Exhibit 9 below)

Exhibit 9



*Kirkpatrick, D.L., & Kirkpatrick, J.D. (2007). Implementing the Four Levels. San Francisco, CA: Berrett-Koehler Publisher

According to research, the best predictor of leadership success is an individual's level of learning agility. Learning agility is a person's desire and ability to learn from experience, and then applying the learning to "comparable" situations. Korn-Ferry has a learning agility instrument that has been used to measure level four, i.e., the learner's desire and ability to learn from experience—to learn an idea in a program and to apply it to other situations, and to avoid the trap of misdiagnosis. There are five dimensions of "learning agility:" mental, people, change, results agility, and self-awareness. This can be used to either screen candidates initially or used during the program as a baseline measure for long term follow-up.

If a program has planned group or peer coaching sessions, several qualitative questions can also be used to measure "learning agility." They include:

- Tell me about a time you faced a challenge as a manager and what you did

- Tell me about a time you adapted your leadership skills to a situation
- Tell me about an accomplishment and what you did to make it happen
- Tell me about a time you were “out-of-sync” with a project
- How do you handle change?

When these questions are used to frame the coaching sessions, participants will learn from each other’s experiences.

FINAL WORDS

The time has come to improve the performance of health care delivery systems by educating physicians in reflective leadership, strategy, systems thinking, negotiation, quick teaming, organizational design, health economics and finance. Clinical skills help managers to understand complex care processes, evidence-based thinking, and understanding the mindsets of other clinicians. Management skills help physicians to design and operate high performing organizations that offer 21st century bio-medical science and technology. This should part of health care reform. The Physicians Foundation can place itself at the cutting edge of this important change.

We have attached two checklists—one for the foundation and one for the applicants.

Physicians Foundation Proposal Checklist

1. Does the proposal state clear, concise, measurable program outcomes?
- ❍ Yes
- ❍ Somewhat
- ❍ No

2. Does the proposal link the program state clear, concise, measurable program outcomes?
- ❍ Yes
- ❍ Somewhat
- ❍ No

3. Are the topics focused on topics most important to physicians?
- ❍ Yes
- ❍ Somewhat
- ❍ No

4. Was a course-planning document included? (See exhibit X)
- ❍ Yes
- ❍ Partial course planning document included
- ❍ No

5. Is there a blend of panels and longer physician development sessions?
- ❍ Yes
- ❍ Somewhat
- ❍ No

6. Are the learning objectives clearly linked to the program outcomes?
- ❍ Yes
- ❍ Somewhat
- ❍ No

7. Is there a Program Tram that identifies each of the topics, the faculty, and the time?
- ❍ Yes
- ❍ Somewhat
- ❍ No

8. Is there a session sheet for each topic that describes the session in an overview, identifies the learning objective, and identifies the materials to be used?
- ❍ Yes
- ❍ Somewhat
- ❍ No

9. Is there a brief description that introduces students to what will be covered for a given topic and what skills will be acquired?

- ❍ Yes
- ❍ Somewhat
- ❍ No

10. Is there a list of the tasks and assignments?

- ❍ Yes
- ❍ No

11. Does the task list include the resources and tasks related to the topic?

- ❍ Yes
- ❍ No

Physicians Foundation Program Checklist for Applicants

1. What is the desired length of program?
- ❍ 2 to 3 days
- ❍ 6-10 days
- ❍ Other _____

2. How many meetings will be held?
- ❍ 1
- ❍ 2-6
- ❍ other number _____

3. Frequency of Meetings
- ❍ Once every 1-3 months
- ❍ Once every 4-6 months
- ❍ Once a year
- ❍ Other _____

4. Number of Participants
- ❍ 0-10
- ❍ 11-20
- ❍ 21-30
- ❍ 31-40
- ❍ 41-50
- ❍ other _____

5. Participant Mix
- ❍ Mixed
- ❍ Separated by Career Stage
- ❍ Separated by Specialization

6. Priority Topics
- ❍ Leadership
- ❍ Health Care Finance
- ❍ Organizational Behavior
- ❍ Conflict Resolution & Negotiation
- ❍ Leadership Coaching and Mentoring
- ❍ Building High Performing Teams
- ❍ Quality & Performance Measurement
- ❍ Strategic Management
- ❍ State Health Policy
- ❍ National Health Policy

7. Faculty Involved
- ❍ Academics
- ❍ Practitioners
- ❍ Lecturers
- ❍ Subject Matter Experts
- ❍ Executives and Managers
- ❍ Other _____

8. Teaching Methods
- ❍ Lecture
- ❍ Cases
- ❍ Simulation
- ❍ Small Group Discussion
- ❍ Role Play
- ❍ Story Telling
- ❍ Interactive Exercises
- ❍ Group Learning
- ❍ Team Projects

9. Will your program utilize assessments?
- ❍ Definitely yes
- ❍ Probably yes
- ❍ Might or might not
- ❍ Probably not
- ❍ Definitely not

10. Types of assessments used
- ❍ Personality
- ❍ 360 assessment

11. Will your program include leadership coaching?
- ❍ Definitely yes
- ❍ Probably yes
- ❍ Might or might not
- ❍ Probably not
- ❍ Definitely not

12. What types of evaluations will your program use?
- ❍ Session evaluations
- ❍ Overall Course evaluations
- ❍ Faculty evaluations
- ❍ Long-Term evaluations

13. Will your program offer CME credit?
- ❍ Yes
- ❍ No

14. What type of techniques will be used to market the program?

- ❍ Social Media
- ❍ Targeted
- ❍ Word of Mouth
- ❍ Print Communications
- ❍ Other _____

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Appendix A

Rank Order of Topics

#	Question	Extremely Unimportant	Unimportant	Neither	Important	Extremely Important	Total Responses	Mean
1	**Health Care Finance** (e.g. payor models, bundled care, "value"	27	3	25	145	226	426	4.27
2	**Financial Accounting** (e.g. balance sheets, profit and loss statements)	21	15	64	226	101	427	3.87
3	**Managerial Accounting** (e.g. break-even points, cost benefit analysis, balanced scorecard)	24	14	76	203	111	428	3.85
4	**Economic Analysis** (e.g. supply and demand, external market forces, economic impact of state and federal policy)	21	14	60	215	116	426	3.92
5	**Organizational Behavior** (e.g. organizational design, culture, political systems, decision-making)	16	19	40	145	207	427	4.19
6	**Leadership**	18	12	32	132	229	423	4.28
7	**Leadership Coaching & Mentoring** (e.g. program provides 360 feedback, individual & team coaching)	19	18	54	149	186	426	4.09
8	**Career Development**	20	21	114	164	104	423	3.74
9	**Building High Performing Teams and Organizations**	18	23	56	153	175	425	4.04
10	**Operations Management** (e.g. process improvement, LEAN, project management)	21	20	64	183	137	425	3.93
11	**Strategic Management**	17	16	74	192	123	422	3.92
12	**Project-based Learning** (e.g. participants lead a project within their organization)	16	33	112	168	94	423	3.69
13	**Innovation & Entrepreneurship**	18	29	101	171	104	423	3.74
14	**National Health Policy**	19	24	72	201	108	424	3.84
15	**State Health Policy**	16	19	65	194	130	424	3.95
16	**Implementation Science**	15	26	134	176	69	420	3.61
17	**Marketing & Communication**	20	33	132	171	70	426	3.56
18	**Technology & Informatics**	16	9	80	203	117	425	3.93
19	**Data Analytics**	20	32	88	186	96	422	3.73
20	**Population Health Management**	26	29	108	152	109	424	3.68
21	**Quality Performance Measurement**	22	23	59	175	145	424	3.94
22	**Health Law & Ethics**	19	27	82	207	90	425	3.76
23	**Conflict Resolution & Negotiation**	16	16	75	167	151	425	3.99

Top 11 Topics by State/Region

Topics	Georgia	New England	Texas	Utah	Virginia
Leadership	4.25	4.40	4.02	4.31	4.23
Health Care Finance	4.38	4.37	4.05	4.32	4.23
Organization Behavior	4.14	4.4	3.94	4.22	4.25
Leadership Coaching and Mentoring	4.12	4.22	4.02	4.31	4.23
Building High Performing Teams and Organizations	3.93	4.16	3.9	4.13	3.96
Conflict Resolution & Negotiation	3.9	4.25	3.7	3.96	3.96
State Health Policy	4.0	3.93	3.73	3.98	3.96
Quality & Performance Management	3.59	4.10	3.80	4.07	3.96
Operations Management	3.98	4.05	3.76	4.06	3.7
Technology & Informatics	3.86	3.88	3.73	3.99	4.08
Strategic Management	4.04	4.04	3.68	3.89	3.85

Top 11 Physician Topics (n=425)

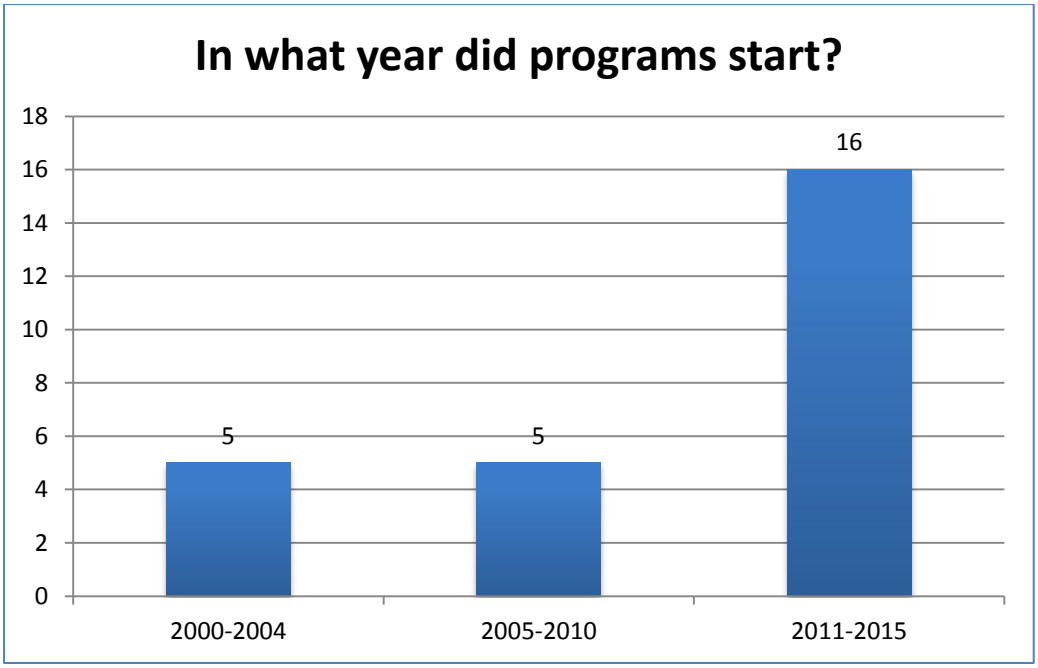
Topics	Mean Total Responses	Percent 'Extremely Important'
Leadership	4.28	54%
Health Care Finance	4.27	53%
Organization Behavior	4.19	49%
Leadership Coaching and Mentoring	4.09	44%
Building High Performing Teams and Organizations	4.04	41%
Conflict Resolution & Negotiation	3.99	35%
State Health Policy	3.95	31%
Quality & Performance Management	3.94	34%
Operations Management	3.93	32%
Technology & Informatics	3.93	28%
Strategic Management	3.92	29%

Bottom 5

Topics	Mean Total Responses	Percent 'Extremely Important'
Data Analytics	3.73	23%
Project-Based Learning	3.69	22%
Population Health	3.68	26%
Implementation Science	3.61	17%
Marketing & Communication	3.56	17%

Topics	C-suite Ranking	Private Practice Ranking
Health Care Finance (e.g. payer models, bundled care, "value")	4.35	4.13
Leadership	4.38	4.08
Organizational Behavior (e.g. organizational design, culture, political systems, decision-making)	4.19	4.06
Leadership Coaching and Mentoring (e.g. program provides 360 feedback, individual and team coaching)	4.18	4.06
State Health Policy	3.89	4.04
Strategic Management	3.96	3.96
Conflict Resolution and Negotiation	4.04	3.95
Building High Performing Teams and Organizations	4.23	3.93
Technology & Informatics	3.99	3.91
Quality and Performance Measurement	4.01	3.88
Operations Management (e.g. process improvement, LEAN, project management)	4.04	3.80

Ranking of Topics: C-suite vs. Private Practice



Program Costs vs. Revenues

	Program Revenues			
Program Costs	**< $40k**	**$40k - $69k**	**$70k - $99k**	**≥ $100k**
< $40k	2	0	0	0
$40k - $69k	6	1	0	0
$70k - $99k	7	0	0	1
≥ $100k	3	3	0	3

Percent private practice physicians vs. c-suite rating a topic extremely important (% 5/5)

Topics	Private Practice (Percent Extremely important)	Private Practice (Percent Extremely important)
Health Care Finance e.g., payor models, bundled care, "value"	49%	43%
Leadership	47%	44%

Organizational Behavior e.g., organizational design, culture, political systems, decision-making	39%	39%
Leadership Coaching and Mentoring e.g., program provides 360 feedback, individual and team coaching	40%	43%
State Health Policy	23%	38%
Strategic Management	31%	29%
Conflict Resolution and Negotiation	32%	
Building High Performing Teams and Organizations	41%	31%
Technology and Informatics	26^%	29%
Quality and Performance Measurement	35%	28%

Conference vs. MD Survey Results (Means)

Conference Attendee Top 11	Mean (out of 5)	National MD Survey Top 11	Mean (out of 5)
Leadership	4.92	**Leadership**	4.28
Conflict Resolution & Negotiation	4.68	**Health Care Finance**	4.27
Building High Performing Teams	4.52	**Organizational Behavior**	4.19
Organizational Behavior	4.48	**Leadership Coaching & Mentoring**	4.09
Health Care Finance	4.48	**Building High Performing Teams**	4.05
Quality/Performance Measurement	4.40	**Conflict Resolution & Negotiation**	3.99
Leadership Coaching & Mentoring	4.36	**State Health Policy**	3.95
State Health Policy	4.24	**Quality/Performance Measurement**	3.94
Strategic Management	4.16	**Operations Management**	3.93
National Health Policy	4.08	**Technology and Informatics**	3.93
Operations Management	4.08	**Strategic Management**	3.92

Conference vs. MD Survey Results (% 5/5)

Conference Attendee Top 11	% 5/5	National MD Survey Top 11	% 5/5
Leadership	92%	**Leadership**	54%
Conflict Resolution & Negotiation	68%	**Health Care Finance**	53%
Organizational Behavior	60%	**Organizational Behavior**	49%
Health Care Finance	60%	**Leadership Coaching & Mentoring**	44%

Building High Performing Teams	56%	**Building High Performing Teams**	41%
Quality/Performance Measurement	52%	**Conflict Resolution & Negotiation**	35%
Leadership Coaching & Mentoring	48%	**Quality/Performance Management**	34%
State Health Policy	40%	**Operations Management**	32%
National Health Policy	32%	**State Health Policy**	31%
Strategic Management	28%	**Strategic Management**	29%
Operations Management	28%	**Technology and Informatics**	28%

WHY BRANDEIS?

Since it's founding in 1959, the Heller School has been committed to developing new knowledge and insights in the field of health policy and in health and human services management.

Heller's unique MBA offers advanced studies on subjects such as the structure, conduct, and performance of healthcare organizations and service delivery systems; new approaches to financing and organizing health care; the delivery of substance abuse and mental health services; racial/ethnic and socioeconomic disparities; and the role of health care policy and management in social change.

The Heller School has specialized expertise in delivering executive leadership programs for physicians. Since 1995, the Heller School at Brandeis University and Tufts School of Medicine (TUSM) have offered MD students an opportunity to obtain the MBA degree in an integrated 4-year sequence. TUSM students in this program receive an AACSB accredited MBA degree in Health Management from Brandeis University (Heller School) in addition to their TUSM medical degree. This highly successful program has graduated nearly 200 physician-MBAs pursuing a spectrum of clinical and leadership interests. Today, it is the largest MD-MBA degree program in the United States.

One of the distinct strengths of the Heller School is its commitment to driving positive

social change through the application of evidence-based research. To ensure the relevance of the educational content, the Heller School has formed alliances and partnerships with medical schools, local physician leadership centers, and Medical Societies such as the American College of Surgeons, AATS and the Massachusetts Medical Society. We have learned that physicians need to learn about topics such as strategic thinking, leading change, state and national health policy trends, relational coordination leading to high performance, negotiation, accounting and management skills. For more than 20 years, we have offered advanced health policy, leadership, and management training for physicians and health leaders.