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# SAGES White Paper on the importance of diversity in surgical leadership: creating the fundamentals of leadership development (FLD) curriculum

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## Abstract

**Background** The Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) has long recognized and championed increasing diversity within the surgical workplace. SAGES initiated the Fundamentals of Leadership Development (FLD) Curriculum to address these needs and to provide surgeon leaders with the necessary tools and skills to promote diversity, equity, and inclusion (DEI) in surgical practice. In 2019, the American College of Surgeons issued a request for anti-racism initiatives which lead to the partnering of the two societies. The primary goal of FLD was to create the first surgeon-focused leadership curriculum dedicated to DEI. The rationale/development of this curriculum and its evaluation/feedback methods are detailed in this White Paper.

**Methods** The FLD curriculum was developed by a multidisciplinary task force that included surgeons, education experts, and diversity consultants. The curriculum development followed the Analysis, Design, Development, Implementation and Evaluation (ADDIE) instructional design model and utilized a problem-based learning approach. Competencies were identified, and specific learning objectives and assessments were developed. The implementation of the curriculum was designed to be completed in short intervals (virtual and in-person). Post-course surveys used the Kirkpatrick's model to evaluate the curriculum and provide valuable feedback.

**Results** The curriculum consisted of interactive online modules, an online discussion forum, and small group interactive sessions focused in three key areas: (1) increasing pipeline of underrepresented individuals in surgical leadership, (2) healthcare equity, and (3) conflict negotiation. By focusing on positive action items and utilizing a problem-solving approach, the curriculum aimed to provide a framework for surgical leaders to make meaningful changes in their institutions and organizations.

**Conclusion** The FLD curriculum is a novel leadership curriculum that provided surgeon leaders with the knowledge and tools to improve diversity in three areas: pipeline improvement, healthcare equity, and conflict negotiation. Future directions include using pilot course feedback to enhance curricular effectiveness and delivery.

**Keywords** Diversity · Curriculum development · Leadership · Surgical culture change · Healthcare equity · Surgical education

The need to increase diverse representation in academic surgery that is reflective of our patient population demographics is well documented [1]. Diverse teams in the workplace function better on multiple levels, they lead in innovations, communicate more effectively, and improve performance and patient-centered outcomes [2–4]. While there are data reflecting the lack of diversity within both the surgical workforce and surgical leadership, there have been few solutions or formalized programs implemented to address these inequities. At the heart of the issue lies the question: How can surgeons build a sustainable, diverse, and inclusive organizational structures that can deliver the highest quality and most equitable care to our patients?

To answer this question, the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) and specifically the Diversity, Leadership, and Professional Development Committee (DLPD) proposed initiatives to tackle these DEI challenges. Prior evaluation with a SAGES climate survey from the DLPD Committee highlighted challenges

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within leadership structures of national organizations centered around three central themes: participation and advancement within the organization, identity and value of SAGES as a society, and diversity within the organization [5]. In response, SAGES initiated changes to its organizational structure aimed at providing opportunities for members to be more actively involved in leadership. This included open call for committee participation, a Speaker's Bureau to diversify panels and speakers, and work to improve gender representation within the leadership. These positive changes have led to a proportional increase of women speakers (9 to 19%) that mirrors the growth of overall female SAGES members (11 to 19%) from 2009 to 2018 ($p < 0.001$) [6]. Additionally, the proportion of panels with a female convener also increased from 12 to 58% during this time, and those sessions with at least one female convener consistently had higher proportions of female speakers ($p < 0.001$) [6]. Further examination of the leadership pipeline at SAGES from 2010 to 2018 also demonstrated an increase in proportion of women committee members, board members, and executives (29%), a growth that outpaced that of the overall SAGES women membership (19%) numbers ($p < 0.01$) [7]. Although there may still be additional opportunity for growth and equity, there were no gender differences seen in the advancement of committee members to leadership positions, indicating that continued conscious and positive efforts can make a difference in aspects of pipeline advancement.

Additionally, the DLPD committee aspired to develop a surgeon-specific diversity, equity, and inclusion (DEI) leadership training program for members focused on action plans to address inequalities, improve the pipeline of advancement, and decrease healthcare inequity [1, 8–10]. The initiative to create a Fundamentals of Leadership Development (FLD) Curriculum was built on SAGES prior experience and success in education and curriculum development. SAGES has exceled at creating innovative and impactful surgical training curricula that have been widely disseminated, such as Fundamentals of Laparoscopic Surgery (FLS), Fundamentals of Endoscopic Surgery (FES), and The Fundamental Use of Surgical Energy (FUSE) [11, 12].

In 2019, the American College of Surgeons (ACS) Board of Regents Committee on Anti-Racism convened the American Surgical Societies summit and issued a request for grant proposals. The ACS called for innovative proposals aimed at improving the diversity and gender balance and cultural competency of the surgical workforce in order to enrich the pipeline of surgeons underrepresented in medicine and reduce disparities in the delivery of healthcare, specifically especially as it relates to surgical care [13]. SAGES submitted the FLD curriculum proposal to the ACS.

The Fundamentals of Leadership Development (FLD) course leverages SAGES expertise in curriculum development to build a novel interactive problem-based learning approach to leadership training focused on developing DEI-specific leadership skills for surgeons. The scope of the course focuses on three overarching themes geared toward equitable excellence in advancing diversity in surgical leadership, healthcare equity, and conflict resolution. To accomplish these aims, the course uses case-based clinical, research, and education scenarios to create positive interventions and action plans for surgeon leaders to implement within their home institutions and professional organizations. This white paper summarizes the development of this novel DEI-focused surgeon-specific leadership curriculum including rationale and methods for feedback/evaluation, and strategies for future curriculum development and implementation.

## Methods

SAGES was awarded grant funding by the ACS for its proposal to develop FLD, a curriculum focused on positive action plans for surgeon leaders working to promote DEI in the future surgical workforce and leadership. IRB approval was not required for curriculum development. Content experts from the SAGES DLPD Committee and SAGES Education Committees convened to develop this novel leadership development curriculum. This FLD taskforce consisted of surgeons from diverse backgrounds, a master educator, and an instructional designer who met on a weekly basis over the span of 1 year to create the conceptual framework for the curriculum. Toward the end of the curriculum development, diversity experts were consulted to critically assess the curriculum and provide input on how to optimize implementation.

Using the ADDIE instructional design model (Analysis, Design, Development, Implementation and Evaluation) [14], the taskforce focused on identifying knowledge gaps, themes, and core competencies in leadership development the curriculum was designed to fulfill (Fig. 1). The curriculum format focused on participant engagement and facilitating a deeper understanding of the material through multimedia-enhanced self-study, dialogue, and didactic sessions. The development of the curriculum used a backward design model by first identifying intended outcomes, appropriate measurable outcomes, and then designing specific activities and clinical scenarios to meet these outcomes [15]. The format of the curriculum was designed to be surgeon specific and was mindful of busy surgeon schedules in its content delivery. For instance, modules were segmented into short 5–15-min sections that could be completed by surgeons at their own pace.

The course was evaluated using a Kirkpatrick's model of program evaluation that assesses the curriculum at four levels: Reaction, Learning, Behavior, and Results (Table 1).

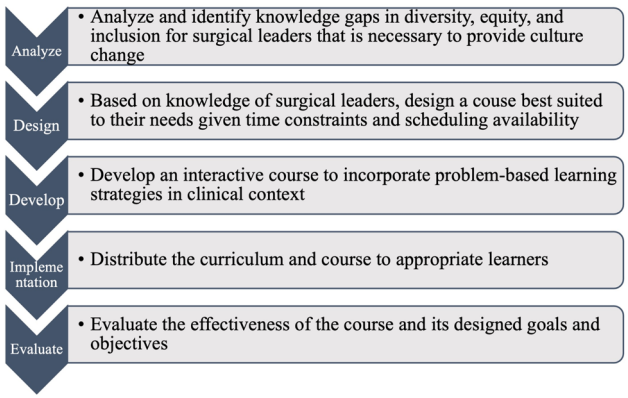


**Fig. 1** ADDIE instructional design model

These evaluation tools were deployed at different intervals during the course and included evaluations immediately after course completion and longitudinally at 6 months. This evaluation process assessed the degree to which participants found the curriculum engaging, whether the intended knowledge/skills was acquired, whether participants would change behavior based on competencies learned, and their perspective on the short- and long-term impact of the FLD curriculum on organizations as a whole [16]. Evaluation tools for the course itself are comprised of a combination of Likert scale, qualitative items, and verbal feedback. Short questions and module ratings were placed at the end of each of the online modules. A slightly longer course evaluation form was given to participants at the end of the online modules and at the end of the small group discussion sessions. Additional assessment tools such as the Diversity Engagement Survey [17] and SAGES Climate Survey [5] were intended to evaluate the long-term impact of the curriculum on participants' success in their leadership career and sense of change within their own organizations and institutions.

## Fundamentals of leadership development curriculum

### Defining goals and vision

The FLD taskforce convened in November 2020 to discuss the overarching goals of the course, target audience, curriculum development, timeline to implementation, data collection, and course evaluation tools. True to the submitted grant proposal, the primary aims of the curriculum were threefold:

(1) Develop positive solutions focused on improving the pipeline and advancement of diversity within surgical departments and organizations

**Table 1** Kirkpatrick model for evaluation in fundamental of leadership development

| Kirkpatrick model level | Evaluation goals | Evaluation of participants |
|---|---|---|
| Reaction | Assessing the degree to which the participants found the DEI curriculum engaging and related to their professional practice | Curriculum evaluation survey assessing the content and format using both quantitative and qualitative questions |
| Learning | Assessing the extent to which participants acquired the intended knowledge, skills, and attitudes from the DEI curriculum | To measure learning, participants will engage in DEI problem-based surgery scenarios and be asked to use competencies acquired to complete them |
| Behavior | Evaluates the degree to which participants used the competencies they acquired in the DEI curriculum in their daily practice | To evaluate the impact on participants behaviors, they will receive a survey about the impact that the DEI program had on their practice (post-course) |
| Results | Evaluates the short- and long-term impact of the DEI program in the organizations | Participants will complete the Diversity Engagement Survey (DES), SAGES Climate survey, and be asked about career advancement (post-course) |

(2) Identify healthcare inequity and strategize interventions to increase healthcare equity within participant's institutions
(3) Recognize conflict management styles and provide practical interventions for conflict negotiation within the context of culture and diversity

The target audience for this course are faculty members in or aspiring to leadership roles at their institutions who understand the need to integrate and prioritize DEI. The intent is to provide surgical leaders practical clinical and professional scenarios that will highlight the need for DEI-focused decisions and action plans. The course intends to facilitate self-reflection, discussion among peers and provoke thoughtful idea sharing. While some aspects of the curriculum provide background, context, and critical skills for leadership development, the focus is on identifying solutions that can be implemented in everyday practice in the operating room, clinical setting, and that can inform interactions with trainees, colleagues, and C-suite administrators.

The project was divided into two phases: (1) curriculum development and (2) pilot implementation, evaluation, and feedback assessment. The curriculum development phase started with a literature review of existing programs and a critical analysis of diversity programs and their successes and failures. First and foremost, we identified that there were no existing leadership curricula for surgeons that focused on incorporating diversity, equity, or inclusion into all aspects of leadership skills. As we delved further into the history of diversity training, we found that the concept of diversity training and mitigating bias came into focus largely in the late 1990s and early 2000s after several high-profile lawsuits in the business community. Class action lawsuits cost employers millions of dollars resulting in heightened awareness of the issue and increases in diversity and implicit bias training, which did little to change the diversity landscape [9, 18]. Most programs focusing on "controlling behavior," grievances, performance ratings, and hiring tests aimed at skills knowledge assessment had the opposite intended effect and, instead of decreasing bias, created more bias as leaders rebelled against rules threatening their autonomy and selfperceptions. As we set to create our own curriculum, we wanted to incorporate the hard lessons learned and build upon prior successful elements of diversity programs such as engaging leaders in problem-solving skills, encouraging social accountability, and exposing leaders to a diverse workforce [9, 18].

## Competencies

Using the backward design model, our first step was to envision the "ideal leader" in the field and the traits and competencies these persons should possess. We categorized these competencies into several mastery levels: novice, intermediate, and advanced, which also correlated with leadership levels of self, teams, and systems (Table 2), a similar competency system used in other SAGES training programs. Across each competency level, the curriculum focused on helping participants develop basic to mastery skills across three major themes of the curriculum: pipeline advancement of diversity in surgery leadership, resource development to achieve healthcare equity in the delivery of clinical care, and providing practical interventions for conflict negotiation within a diversity and cultural context. Within these categories, we asked the questions: "How can an individual/team/system affect change across these themes, and what are tools that a leader might need to accomplish these changes?" Using these questions as a framework, specific learning objectives and paired assessments were developed for each corresponding theme and competency so when participants took the course there were measurable outcomes for each objective.

## Curriculum structure and resources

As the framework and objectives of the course were organized, the next critical question became: How do surgical leaders learn best, how can they effectively interact with the material, and can we provide necessary tools and skills for success? Reviews of prior program failures taught us that focusing on positive action items, voluntary participation, and contact with others from different backgrounds tended to decrease bias and promote change [9]. To incorporate these lessons learned, we set out to create an interactive curriculum that encourages discussion, engagement, and collaborative problem solving. This required a departure from strictly lecture-based or online module learning, as evidence shows this has sometimes minimal educational impact, knowledge retention, or changes in behaviors for participants [19–21]. Didactic discussion sessions incorporated in the curriculum in a practical context were meant to provide additional value and raise the knowledge of participants [8, 21]—we theorized that peer participants from diverse backgrounds and experiences would learn from one another as they engaged in active problem solving as a team.

There is recent evidence that suggests that in order to be optimally effective, leadership training programs also need to be delivered in an intimate setting, promoting speak-up culture, be customized for surgeons, and involve interactive learning activities [20]. This led to a three-tiered course that targeted learners using a combination of learning methods (Fig. 2):

(1) *Interactive online modules* Ten modules created from high-quality multimedia sources to provide the necessary background information and data to be completed

**Table 2** Fundamentals of leadership development mastery levels and competencies

| Mastery level | Competency | Advancing diversity pipeline | Healthcare equity | Conflict resolution |
|---|---|---|---|---|
| Novice | Self<br>Self-Awareness<br>Mindfulness<br>Emotional Intelligence<br>Communication<br>Commitment to Social Justice | What narratives did I grow up with, what stories do I tell myself, how do I react to new and different things? | How do I recognize when the stories in my head affect how I care for patients? | How can I stand up for myself, others and resolve conflict? |
| Intermediate | Team<br>Recruitment/Retention<br>Navigating Conflict Management<br>Creating Cultural Competency & Safety | How do I participate and lead in a diverse team/ensure safe zones for all participants and foster a sense of belonging? | How do I participate and lead in a team to provide trusted, culturally appropriate care and address health inequity? | How do I lead negotiations for the change I/we want to see? |
| Advanced/systems | System<br>Social Determinants of Health<br>Improving Diversity Pipeline<br>Innovation | How do I learn to see what obstacles for Underrepresented in Medicine (URiM) colleagues and trainees are present in the system and advocate for/effect change? How to build that environment to be conducive to conversation? | How do I learn to see what obstacles for diverse patients are present in the system and advocate for/effect change? | How do I lead negotiations for the change I/we want to see? |




**Fig. 2** Fundamentals of leadership development course outline

in self-study and self-reflection prior to engaging with the other participants.

(2) *Online discussion forum* To facilitate interaction between participants and engage them in course-based prompts that could be completed individually over time.

(3) *Small group didactic portion* Comprised of discussion of case-based scenarios in a leadership and/or clinical context.

With these three different methods combined, the primary aim of the course was to teach participants leadership skills that could be implemented in a variety of settings and engage them in active discussion and problem solving so positive action solutions could be the key takeaways from the course. Secondary aims were (1) leveraging the diversity of the participants to provide opposing viewpoints from individuals who had different perspectives or institutional resources and (2) use newly forged connections from the course to build allies and relationships that they could then carry forward into their real-life leadership roles.

## Pilot implementation and evaluation

There are little data surrounding implementation of surgical leadership curricula and the appropriate measures of success or failure. Using course evaluation tools such as course feedback and then improving the course based on feedback will strengthen the delivery of course content. Pilot implementation of this new curriculum considered several factors to attempt to increase participation and completion: surgeon availability, time constraints, and accessibility. To address these potential issues, the online modules were available to participants at least 1 month prior to the didactic sessions, with guided syllabus and instructional videos. All course content was made to be short and to be completed in 5–15-min intervals to account for limited time available in most surgeon schedules. The didactic course was also offered as either a virtual longitudinal weekly 2-h discourse or a 2-day virtual course (4 h each day) to allow for maximal flexibility. Since there are limited data available regarding optimal implementation and delivery of a leadership development

curriculum such as this, subsequent assessment of participation, course completion, and retention of knowledge will be important. As courses are deployed, course content, delivery, and effectiveness will be prospectively evaluated. Additional changes will be made to tweak the course based on participant feedback in pilot courses.

One challenge will be to assess whether the FLD curriculum is successful in creating measurable change in diversity among surgical leadership, in improving healthcare equity, and in achieving conflict resolution in the DEI space. The evaluation metrics for our course were developed to look at two separate outcomes: (1) Assessment of the content and delivery of curriculum and if the format of the curriculum achieved its intended purpose; (2) Assessment of the behavioral change of participants as it relates to improved diversity engagement. To assess the curriculum itself, a tiered feedback system was deployed at multiple time points of the curriculum (Table 3). Evaluation surveys used several different types of questions for feedback ranging from Likert scale ratings to open-ended questions aimed at gaining the following information: assessment of content appropriateness, achievement of stated objectives, usefulness of material, delivery of content, formatting of the course, and if the modules improved understanding of DEI in a leadership context. These questions were developed with the Kirkpatrick model in mind at assessing the first several areas of reaction, learning, and behavior change.

The most elusive and difficult metric to capture in this curriculum is meaningful change and improvement in DEI within an organization or institution [22]. The only validated survey tool that currently exists is the Diversity Engagement Survey (DES), which assesses eight separate engagement and inclusion factors: common purpose, trust, appreciation of individuals, sense of belonging, access to opportunity, equitable reward, cultural competence, and respect [17]. This DES survey and the SAGES Climate Survey were

**Table 3** Fundamentals of leadership development course evaluation and feedback

| Survey | Evaluation method | Information assessed | Survey deployment | Number of questions | Time spent (min) |
|---|---|---|---|---|---|
| Online module feedback | Likert Scale Rating<br>Open-Ended Feedback<br>Multiple-Choice Knowledge Check (CME) | Course Content<br>Confidence in Applying Module Content<br>Content Completion by Participant | End of each online module (10 total) | 4 | 5 |
| Overall online content evaluation | Likert Scale Rating<br>Open-Ended Feedback | Course Content<br>Course Delivery<br>Achievement of Stated Objectives<br>Usefulness and Relevance of Content<br>Improvement in Knowledge of DEI | End of all online modules | 11 | 10 |
| Didactic session evaluation | Likert Scale Rating<br>Open-Ended Feedback | Course Content<br>Course Delivery<br>Achievement of Stated Objectives<br>Usefulness and Relevance of Content<br>Comfort & Psychological Safety<br>Improvement in Knowledge of DEI | End of Didactic Session | 15 | 10 |
| SAGES climate survey | Likert Scale Rating<br>Open-Ended Feedback | Deidentified Demographics<br>SAGES Experience<br>Mentorship & Interpersonal Relationships<br>Opportunities for Improvement | Pre-Course, Post-Course, 6 month Post-Course | 27 | 15 |
| Diversity engagement survey | Likert Scale Rating | Sense of Belonging, Trust, Common Purpose, Appreciation of Individuals, Access to Opportunity, Equitable Reward, Cultural Competence, Respect | Pre-Course, Post-Course, 6 month Post-Course | 23 | 10 |

used to assess the second aspect of our curriculum goals and the hardest of the Kirkpatrick model: assessing results and change in behavior. Participants were given the DES prior to the start of the course and then several months after the end of the course to see if their sense of engagement and inclusion of their institution or professional organization (SAGES) has changed as a direct result of their participation in FLD. Additionally, further assessments to evaluate the impact of FLD on improving pipeline diversity, healthcare equity, and conflict resolution with DEI issues will also need to be deployed.

## Next steps

Building a DEI-focused diversity leadership curriculum is the just start in understanding how to implement real change at the level of surgical leadership, which will then trickle down to effect surgical culture. Most diversity efforts have focused on identifying the problem [1], but it will take time to take these identified inequities and generate subsequent implementable and actionable solutions in our daily practice as surgeons, colleagues, leaders, and teachers. The focus on education of surgical leaders with a curriculum like FLD is a first step toward improving equity, diversity, and inclusion within organizations. These changes impact not only practicing surgeons, and trainees, but also the most important population: our patients. Using these opportunities to identify knowledge gaps, education, and implementing practical solutions will be important in addressing some of the inequities and gaps that currently exist.

As we adapt and create solutions, assess implementation strategies, and obtain feedback on current interventions, optimizing best practices for measuring change beyond the usual metrics will be crucial to success. There are limitations to this process as goals, objectives, and outcomes remain ill-defined and difficult to measure. Ultimately, it is not enough to attempt new interventions—without appropriate evaluations of key goals and objectives, it will be difficult to assess if we are hitting our target and if these changes are associated with true impact. We must be willing to listen, critically assess, and continually modify our approaches to optimize and sustain success. Identifying these barriers and facilitators to implementation and analyzing failures will be essential to building even better solutions and programs for change. Thus, data from curriculum implementations such as FLD will provide important information for future growth.

The FLD curriculum is a novel leadership curriculum that provides surgeon leaders with the knowledge and tools to improve diversity in three key areas: pipeline improvement, healthcare equity, and conflict negotiation. Through the curriculum, participants are exposed to different aspects of DEI as it relates to leadership and strengthened different skill-sets to tackle challenges in the clinical and administrative setting. The long-term effects of this curriculum on leaders and subsequent downstream organizational, institutional, and cultural changes will need to be tracked to ascertain its true impact.

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## Declarations

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