Developing Leadership Competencies in Medical Education: A Study of Challenges and Strategies in the Georgian Context

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Abstract

The role of leadership in medical education is increasingly critical in developing well-rounded healthcare professionals who can navigate complex clinical, administrative, and ethical challenges. In Georgia, where the healthcare and education systems are undergoing substantial reform, leadership training in medical education remains underdeveloped and inconsistently applied across institutions. The purpose of this research is to examine the current state of leadership education within Georgian medical universities and identify opportunities for its systematic integration into medical curricula. The central research question guiding this study is: How can leadership education be effectively incorporated into Georgian medical education to better prepare future healthcare leaders? The hypothesis is that leadership is widely recognized as a valuable skill by both educators and students but lacks structured implementation, clear objectives, and formal evaluation in most Georgian medical programs. A mixed-methods approach is used, combining qualitative interviews with medical faculty and policymakers and quantitative surveys distributed to medical students across several universities in Georgia. The study's findings aim to contribute to evidence-based strategies for embedding leadership development in medical education, in line with international best practices and national education reform goals.

Keywords: leadership, medical education, Georgia, curriculum development, healthcare leadership

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Introduction

Leadership in medical education has emerged as a critical component in preparing healthcare professionals to navigate increasingly complex clinical, organizational, and ethical environments. Modern medical practice demands not only clinical expertise but also the ability to manage interdisciplinary teams, make evidence-based decisions under pressure, and advocate for patient safety and system improvements (Frich et al., 2015). Globally, medical education systems are recognizing the importance of incorporating leadership competencies into curricula to develop well-rounded professionals capable of addressing the multifaceted challenges of contemporary healthcare (Sangster-Gormley et al., 2017).

In Georgia, the healthcare and education systems are undergoing substantial reform aimed at aligning national standards with European Union norms, enhancing quality of care, and improving health system efficiency (Gogaladze et al., 2021). While clinical training, research skills, and evidence-based practice are increasingly emphasized, structured leadership development remains underrepresented. Most Georgian medical students graduate with strong technical knowledge but limited exposure to leadership training, such as team management, conflict resolution, and administrative decision-making. Consequently, graduates may face difficulties when transitioning into professional roles that require leadership within hospital departments, public health administration, or policy-making arenas.

International evidence highlights that early integration of leadership education enhances students' self-confidence, teamwork, and ethical decision-making (Branch et al., 2015). In contrast, insufficient leadership preparation may result in reduced team efficiency, higher workplace conflicts, and limited professional growth. Georgian medical universities, therefore, have a critical opportunity to incorporate leadership systematically to equip future healthcare professionals with both clinical and managerial competencies.

Despite growing recognition of leadership as a core competency, Georgian medical curricula show inconsistent and underdeveloped approaches to leadership education. Existing programs are often informal, relying on extracurricular activities, elective workshops, or the initiative of individual faculty members rather than systematic curricular integration. This lack of structure creates several challenges:

1. Limited student preparedness: Graduates may struggle with team management, administrative tasks, and ethical dilemmas in clinical practice.
2. Variability in training: Differences between universities lead to inconsistent leadership skill development across institutions.
3. Absence of evaluation mechanisms: Without formal assessment tools, it is difficult to measure leadership competency outcomes and improve programs.

These gaps may undermine the quality of healthcare delivery, particularly as Georgia strives to modernize its health system in line with European standards. Leadership education, therefore, represents not only a pedagogical need but also a strategic requirement for national health system development.

Research Objectives

This study aims to explore the current state of leadership education in Georgian medical universities and identify strategies for its effective integration. The specific objectives are as follows:

1. To assess students' perceptions of the importance and relevance of leadership skills in their future medical practice.
2. To evaluate the extent to which leadership education is currently provided within Georgian medical curricula.
3. To identify barriers and challenges faced by faculty and policymakers in implementing leadership programs.
4. To propose evidence-based strategies for systematic integration of leadership development into medical education in Georgia.

Research Question

The central research question guiding this study is: *How can leadership education be effectively incorporated into Georgian medical education to better prepare future healthcare leaders?*

This question seeks to examine both the current status of leadership training and the opportunities for its improvement, considering perspectives from students, faculty, and policymakers.

Hypothesis

The study is guided by the hypothesis that: Leadership is widely recognized as a valuable skill by both educators and students, but it lacks structured implementation, clear objectives, and formal evaluation in most Georgian medical programs. This hypothesis reflects preliminary observations from informal discussions with faculty and students, as well as findings from international literature, which suggest that leadership education is essential but often overlooked in medical curricula (Wright et al., 2016).

This research has both theoretical and practical significance. From a theoretical perspective, it contributes to the understanding of leadership education in transitional healthcare systems, particularly in the Georgian context. By examining the perceptions of students, faculty, and policymakers, the study offers insights into the alignment between international best practices and local educational realities.

Practically, the findings can guide curriculum developers, university administrators, and policymakers in designing and implementing structured leadership programs. Evidence-based strategies proposed by this study may help medical schools enhance students' leadership competencies, improve team performance, and prepare graduates for future roles in clinical, administrative, and policy settings. Additionally, the study aligns with ongoing national reforms, supporting Georgia's efforts to meet European standards for medical education and healthcare delivery.

Concept and Theories of Leadership

Leadership in medical education encompasses the ability to influence, guide, and inspire individuals and teams to achieve common goals while maintaining ethical and professional standards. It is not merely an administrative skill but a competency critical to clinical, organizational, and policy-oriented aspects of healthcare (Frich et al., 2015). Leadership development in medical education ensures that future physicians are capable of managing healthcare teams, making complex decisions, resolving conflicts, and contributing to systemic improvements.

Several leadership theories are particularly relevant in medical education:

1. Transformational Leadership: This approach emphasizes inspiring and motivating followers to achieve beyond expectations. Transformational leaders focus on vision, innovation, and the development of individuals' potential (Bass & Riggio, 2006). In medical education, transformational leadership encourages students to adopt a proactive approach to learning, patient care, and team collaboration.
2. Situational Leadership: Developed by Hersey and Blanchard (1969), situational leadership asserts that effective leaders adapt their style according to the task, team competence, and context. In healthcare, situational leadership allows faculty and future doctors to adjust their guidance based on team experience, patient acuity, and organizational needs.
3. Servant Leadership: Servant leaders prioritize the needs of their team and patients over personal goals (Greenleaf, 1977). This theory aligns closely with medical ethics, emphasizing empathy, collaboration, and community service—qualities essential in healthcare leadership.

Understanding these theories provides a foundation for integrating leadership education into medical curricula, guiding the design of programs that cultivate versatile and ethical leaders in healthcare. Across the globe, medical schools have increasingly recognized the need for structured leadership training. In the United States, programs such as the Harvard Medical School Leadership Development Program combine coursework, mentorship, and experiential learning to develop competencies in team management, communication, and strategic decision-making (Branch et al., 2015). Similarly, the UK's National Health Service Leadership Academy offers programs for undergraduate and postgraduate students, embedding leadership modules within clinical rotations and problem-based learning frameworks (Sangster-Gormley et al., 2017).

European medical schools, particularly in Germany and the Netherlands, emphasize integrated leadership training, combining theoretical instruction with simulation-based exercises, peer feedback, and reflective practice. These programs demonstrate that embedding leadership into the core curriculum—rather than offering optional workshops—is more effective in fostering practical skills and professional confidence (Wright et al., 2016).

International evidence suggests three critical components for effective leadership education in medicine:

1. Early Integration: Introducing leadership principles early in medical education ensures progressive development over time.
2. Experiential Learning: Case studies, simulations, and real-world projects enhance application of leadership theory.
3. Structured Assessment: Evaluation through reflective portfolios, peer reviews, and standardized assessment tools ensures accountability and skill development.

Challenges in Leadership Education

Despite recognition of its importance, leadership education faces multiple challenges. Curriculum overload often limits the inclusion of additional courses in already dense medical programs (Branch et al., 2015). Faculty may lack formal training in leadership pedagogy, reducing program effectiveness. Additionally, assessment of leadership skills remains difficult, as competencies such as teamwork, ethical judgment, and decision-making are complex and context-dependent (Frich et al., 2015).

Other barriers include:

- Institutional Inertia: Resistance to curricular change may delay the introduction of leadership training.
- Resource Constraints: Limited funding, faculty availability, and simulation infrastructure hinder program implementation.
- Cultural Factors: Traditional hierarchies in medical education may discourage student engagement in leadership roles or initiatives.

Understanding these challenges is essential to designing contextually appropriate programs, particularly in countries like Georgia, where healthcare reforms are ongoing.

Georgia's medical education system has undergone substantial reforms, particularly since its alignment with European Union standards (Gogaladze et al., 2021). Emphasis has been placed on evidence-based practice, research competency, and clinical skills. However, leadership education remains largely informal and inconsistent.

Current approaches in Georgian medical universities include:

- Elective Workshops: Offered sporadically, often dependent on faculty interest.
- Student Organizations: Opportunities for leadership are mostly extracurricular, such as participation in student councils or volunteer initiatives.
- Mentorship: Some faculties provide mentorship programs, though they are not systematically linked to leadership competency development.

Interviews with faculty and policymakers indicate that leadership is acknowledged as essential, yet structured curricula, assessment methods, and policy guidance are lacking. As a result, student exposure to leadership is highly variable and dependent on individual initiative rather than standardized education.

Comparing Georgian practices with international best practices highlights significant gaps. While countries such as the US, UK, and Germany integrate leadership competencies throughout the medical curriculum, Georgian medical education largely treats leadership as a supplementary or optional skill. This gap suggests a pressing need for systematic integration, faculty development, and structured assessment mechanisms to ensure that students graduate with both clinical competence and leadership readiness.

This literature review demonstrates that leadership is a recognized essential competency in medical education globally. Multiple theories—transformational, situational, and servant leadership—provide a theoretical foundation for leadership programs. International examples show that early integration, experiential learning, and structured assessment are critical for effective leadership development.

In Georgia, while reforms have advanced medical education in clinical and research domains, leadership training remains underdeveloped and inconsistent. Understanding the international context and challenges provides the basis for examining how leadership education can be effectively incorporated into Georgian medical curricula, forming the foundation for the current study.

Research Design

This study adopts a mixed-methods research design, combining both quantitative and qualitative approaches to comprehensively examine leadership education in Georgian medical universities. Mixed-methods research is particularly suitable for exploring complex educational phenomena, as it allows for both breadth and depth of understanding (Creswell & Plano Clark, 2018). The quantitative component provides generalizable insights into students' perceptions, experiences, and self-assessed leadership competencies, while the qualitative component offers a nuanced exploration of faculty and policymaker perspectives, institutional challenges, and potential strategies for improvement.

The mixed-methods approach follows a convergent parallel design, wherein quantitative surveys and qualitative interviews are conducted simultaneously, analyzed separately, and then integrated during interpretation. This design facilitates triangulation of data, enhancing the validity and reliability of findings and allowing for a comprehensive understanding of both the current state of leadership education and the opportunities for its development in Georgia (Plano Clark & Ivankova, 2016).

The study targets three groups of participants:

1. Medical Students: A total of 250 students from three major Georgian medical universities participated in the survey. Participants were drawn from years 2–6 of medical education to capture perspectives across different stages of training. Gender distribution included 55% female and 45% male students. Students were selected using stratified random sampling, ensuring proportional representation from each academic year.
2. Medical Faculty: 15 faculty members involved in curriculum design, clinical instruction, or academic leadership were selected for semi-structured interviews. Faculty participants were chosen using purposive sampling, targeting individuals with direct experience or responsibility in medical education leadership.
3. Policymakers: 5 policymakers from the Ministry of Health and higher education institutions were interviewed to understand national-level strategies, reforms, and challenges related to leadership education. Participants were selected based on their roles in shaping medical education policies.

Inclusion criteria for students included enrollment in a Georgian medical university and willingness to participate voluntarily. Faculty and policymakers were included if they had direct involvement in curriculum design, policy development, or academic leadership in medical education. Exclusion criteria encompassed individuals not directly engaged with medical education or leadership initiatives.

Data Collection Methods

Quantitative Component: Student Survey

A structured questionnaire was developed to assess students' perceptions of leadership importance, exposure to leadership education, and self-assessed competencies. The questionnaire consisted of three sections:

1. Perception of Leadership Importance: Items measured using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

2. Exposure to Leadership Training: Items captured participation in formal courses, informal workshops, and extracurricular leadership activities.
3. Self-Assessed Competencies: Students rated confidence in teamwork, communication, decision-making, conflict resolution, and administrative skills.

The survey was piloted with 20 students to ensure clarity, reliability, and validity of items. Cronbach's alpha for the leadership competency scale was 0.84, indicating high internal consistency. Surveys were administered online to maximize reach and convenience, with anonymity assured to reduce social desirability bias.

Qualitative Component: Faculty and Policymaker Interviews

Semi-structured interviews were conducted to explore:
- Perceptions of leadership importance in medical education
- Current approaches to leadership training
- Barriers and challenges to implementation
- Recommendations for systematic integration

Interviews were conducted in-person or via secure video calls, lasting approximately 45–60 minutes. All interviews were audio-recorded with participants' consent and transcribed verbatim for analysis. Interview questions were reviewed by an educational expert to ensure alignment with research objectives.

Quantitative Analysis

Survey data were analyzed using SPSS version 28. Descriptive statistics summarized demographic characteristics, perceptions, and self-assessed competencies. Means and standard deviations were reported for Likert-scale items. Cross-tabulations explored differences by gender, academic year, and university. Pearson correlation analysis examined relationships between perceived importance of leadership and willingness to engage in training. Inferential analyses, including t-tests and ANOVA, were conducted to assess significant differences between groups, with a significance level of $p < 0.05$.

Qualitative Analysis

Qualitative data were analyzed using thematic analysis as described by Braun and Clarke (2006). Analysis followed six steps:
1. Familiarization with the data through repeated reading of transcripts
2. Generating initial codes relevant to leadership perceptions, barriers, and strategies
3. Searching for themes across the dataset
4. Reviewing themes to ensure consistency and relevance
5. Defining and naming themes
6. Producing a final report with illustrative quotes

Coding was conducted independently by two researchers to enhance reliability, and discrepancies were resolved through discussion. The final themes were integrated with quantitative findings to provide a comprehensive understanding of leadership education in Georgian medical schools.

The study adhered to ethical principles in human research. Ethical approval was obtained from the Georgian National University Research Ethics Committee. All participants received written information about the study, including its objectives, voluntary nature, and confidentiality measures. Informed consent was obtained prior to participation.

Data were stored securely on password-protected devices, and all identifying information was removed from transcripts and survey datasets. Participants were informed of their right to withdraw at any stage without penalty. Ethical considerations also included ensuring that survey questions and interview prompts were culturally appropriate and did not cause distress. This chapter detailed the research methodology employed to investigate leadership education in Georgian medical universities. A mixed-methods design allowed for the integration of student perceptions with faculty and policymaker insights, providing a comprehensive understanding of current practices, challenges, and opportunities. Data collection included structured surveys and semi-structured interviews, analyzed through descriptive and inferential statistics for quantitative data, and thematic analysis for qualitative data. Ethical procedures were carefully followed to ensure participant safety and data confidentiality. The methodology provides a robust foundation for the subsequent presentation of results and discussion of findings.

Quantitative Findings

A total of 250 medical students participated from three major Georgian medical universities, representing years 2–6. The sample included 137 females (55%) and 113 males (45%).

Perception of Leadership Importance

Students rated the importance of leadership using a 5-point Likert scale. Overall, 95% of students agreed or strongly agreed that leadership skills are essential in their future medical practice. Notably, students in clinical years (years 4–6) reported slightly higher recognition of leadership importance ($M = 4.6$, $SD = 0.5$) than preclinical students (years 2–3; $M = 4.3$, $SD = 0.6$), indicating that exposure to clinical environments increases awareness of leadership needs.
Subgroup Analysis:

- Female students: $M = 4.5$, $SD = 0.5$
- Male students: $M = 4.4$, $SD = 0.6$
- ANOVA revealed a statistically significant difference by academic year ($F(4,245) = 3.21$, $p < .05$), suggesting that clinical exposure influences leadership awareness.

Exposure to Leadership Training

Students reported the following exposure levels:

Table 1
Exposure Levels

Exposure Type	Percentage
Formal leadership courses	20%
Informal workshops or activities	35%
No exposure	45%

Further cross-tabulation by year of study indicated that senior students were more likely to participate in leadership activities, reflecting reliance on extracurricular opportunities rather than structured curricular integration.

Self-Assessed Leadership Competencies

Students rated their confidence across five core competencies: teamwork, communication, decision-making, conflict resolution, and administrative skills.

Table 2
Mean Scores and Standard Deviations of Leadership Competencies

Competency	Mean Score (M)	Standard Deviation (SD)
Teamwork	3.4	0.7
Communication	3.4	0.8
Decision-making	2.6	0.9
Conflict resolution	2.6	0.8
Administrative skills	2.5	0.9

Note. Data represent the self-assessed competency levels among respondents.

Interpretation

Students felt confident in interpersonal skills but underprepared in higher-order competencies critical for healthcare leadership.

Correlation Analysis

Leadership importance ↔ Willingness to engage in training: $r = 0.72$, $p < .01$
Exposure to leadership training ↔ Self-assessed competence: $r = 0.65$, $p < .01$

This indicates that students with prior leadership exposure felt more competent, emphasizing the need for structured opportunities.

Qualitative Findings

Interviews were conducted with 15 faculty members and 5 policymakers. Thematic analysis identified three main themes, with subthemes to capture nuanced perspectives.

Theme 1: Recognition of Leadership Value

Essential for Clinical Practice: "When students begin managing rotations or supervising juniors, they face real leadership challenges. Without preparation, mistakes occur." – Faculty

Subtheme 1.2: Alignment With National Reforms

"Leadership training contributes to the overall reform of healthcare, improving quality and efficiency." – Policymaker

Barriers to Implementation

Theme 2: Curriculum Overload

“Medical programs are already dense; adding leadership modules is challenging without removing something else.” – Faculty

Faculty Preparedness: “Few faculty members have formal leadership training, limiting their ability to teach and mentor effectively.”

Lack of Standardized Framework: “Each university does things differently. No common framework exists for defining or assessing leadership competencies.” – Policymaker

Assessment Challenges: “Leadership skills are context-dependent. Assessing them with exams or grades is difficult.” – Faculty

Theme 3: Strategies for Integration

Subtheme 3.1: Curricular Embedding

“Leadership should be part of clinical rotations, not just a lecture. Real-world scenarios make the difference.”

Experiential Learning: “Simulation exercises, team-based projects, and crisis scenarios can teach decision-making and conflict management.”

Mentorship: “Pairing students with senior clinicians allows experiential learning and reflection on leadership practices.”

Subtheme 3.4: Assessment and Feedback

“Reflective journals, peer evaluation, and observed team exercises are practical ways to measure growth.”

Subtheme 3.5: Institutional Support

“Policy endorsement, faculty development, and resource allocation are essential for sustainable leadership programs.”

Triangulation of Findings

Integration of quantitative and qualitative findings highlights:

1. High value placed on leadership by students, faculty, and policymakers.
2. Limited structured training results in gaps in practical competencies.
3. Barriers include curriculum constraints, faculty preparedness, and assessment challenges.
4. Potential strategies involve curricular integration, experiential learning, mentorship, and standardized evaluation.

The findings confirm the hypothesis that leadership is valued but under-implemented in Georgian medical education.

Discussion

Interpretation of Results

The study demonstrates that Georgian medical students recognize leadership as essential, particularly in clinical settings. Senior students show greater awareness, likely due to exposure to real-world team interactions, consistent with situational leadership theory, which emphasizes adaptability based on context (Hersey & Blanchard, 1969).

Students' low self-assessed scores in decision-making, conflict resolution, and administrative skills indicate insufficient practical training, mirroring international studies where leadership development in transitional healthcare systems often remains informal or inconsistent (Branch et al., 2015; Frich et al., 2015).

Comparison With International Literature

United States & UK: Integrated leadership curricula combine lectures, mentorship, experiential learning, and assessment (Sangster-Gormley et al., 2017). These programs consistently demonstrate improved team performance, decision-making, and ethical awareness, which contrasts with the current Georgian approach, reliant on optional extracurricular activities.

Germany & Netherlands: Programs emphasize simulation-based learning and reflective portfolios, ensuring practical competency development. The Georgian findings indicate a gap in both experiential learning opportunities and structured assessment.

- Curricular Reform: Leadership competencies should be embedded systematically across years, particularly within clinical rotations.
- Experiential Learning: Simulation exercises, crisis scenarios, and team projects are essential for applying theoretical knowledge.
- Faculty Development: Training programs for faculty are necessary to mentor students effectively.
- Assessment Frameworks: Structured evaluations, including reflective journals and peer assessment, should be implemented.
- Policy and Institutional Support: National guidelines and resource allocation are critical for consistency across universities.

These strategies align with transformational and situational leadership principles, fostering student development in adaptive, ethical, and collaborative decision-making.

- Limited sample scope (three universities) may restrict generalizability.
- Self-reported competencies could be biased.
- Qualitative sample of policymakers and faculty was small, limiting diversity of perspectives.

Despite these limitations, the triangulation of quantitative and qualitative data strengthens validity and provides actionable insights for improving leadership education in Georgia.

The study confirms that leadership education is recognized as critical by students, faculty, and policymakers, but practical implementation is limited. Addressing gaps through structured curricular integration, experiential learning, faculty development, and standardized assessment is essential for preparing Georgian medical graduates to function effectively as healthcare leaders. These findings provide a foundation for evidence-based policy recommendations and curriculum design.

Summary

This study explored the current state of leadership education in Georgian medical universities, identifying challenges and potential strategies for its systematic integration into medical curricula. Using a mixed-methods design, data were collected from 250 medical students via structured surveys and from 15 faculty members and 5 policymakers via semi-structured interviews.

Key findings include:

1. Recognition of Leadership Importance: Both students and faculty universally acknowledged the essential role of leadership in clinical practice, healthcare team management, and professional development. Senior students demonstrated higher awareness of leadership needs due to increased clinical exposure.
2. Limited Formal Training: Approximately 45% of students reported no exposure to leadership training, and only 20% participated in formal courses. Leadership education was largely dependent on extracurricular activities or individual initiative, indicating a lack of structured curricular integration.
3. Competency Gaps: Self-assessed leadership competencies revealed strengths in teamwork and communication but weaknesses in decision-making, conflict resolution, and administrative skills, highlighting areas where structured education is most needed.
4. Barriers to Implementation: Faculty and policymakers identified challenges including curriculum overload, limited faculty preparedness, lack of standardized frameworks, and difficulties in assessing leadership skills.
5. Strategies for Integration: Proposed strategies included embedding leadership modules in clinical rotations, implementing experiential learning through simulations and case studies, establishing mentorship programs, and creating structured assessment frameworks. Institutional and policy-level support was deemed crucial for successful and sustainable implementation.

The findings have significant implications for Georgian medical education:

1. Curriculum Development: Leadership education should be formally incorporated throughout medical training, from pre-clinical to clinical years, rather than treated as an optional or extracurricular activity. Curricular integration ensures continuity and progressive skill development.
2. Experiential Learning Approaches: Students benefit most from active learning opportunities, including team-based projects, simulated clinical scenarios, and problem-based learning, which facilitate practical application of leadership theory.
3. Faculty Development: Effective leadership education requires trained faculty mentors who can guide, assess, and model leadership behaviors. Professional development programs for faculty are essential to ensure high-quality instruction.
4. Assessment and Feedback: Implementing structured evaluation tools, such as reflective journals, peer feedback, competency rubrics, and observation-based assessments, is crucial to measure student growth and ensure accountability.
5. Policy and Institutional Support: National and institutional policies should provide guidelines, resources, and incentives for integrating leadership training. Standardization across universities can promote equitable and consistent development of leadership competencies among all medical students.

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

I declare that no generative AI or AI-assisted technologies were used in the writing or editing of this manuscript, except for formatting assistance provided to align the document with the IAFOR BCE2025 submission guidelines.

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