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# Transformative Contributions of a Dow Graduate: A Visionary's Impact on His Alma Mater

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## ABSTRACT:

Sohail Rao (SR), a distinguished 1983 graduate of Dow Medical College (DMC), has made far-reaching and enduring contributions to Dow University of Health Sciences (DUHS) through his leadership roles since 2018. Serving in various leadership roles, he has been instrumental in reshaping DUHS's strategic vision, research infrastructure, academic programs, clinical systems, and digital capabilities. His initiatives span the establishment of unit-specific strategic frameworks, the creation of graduate education pathways, the integration of digital health technologies, and the modernization of DUHS's clinical operations. As a visionary leader, SR has consistently aligned DUHS's growth with global academic and healthcare trends, enhancing its regional and international reputation. His role as Co-Chair of the First International Conference on Transplantation, held from April 9-13, 2025, further underscores his commitment to advancing DUHS's global footprint. This manuscript documents his transformative contributions, highlighting the synergy of institutional leadership, alumni commitment, and strategic collaboration. The sustained support, trust, and delegation of authority by the former Vice Chancellor and Meritorious Professor Muhammad Saeed Quraishy, as well as key stakeholders and DUHS's dedicated faculty and staff, have been pivotal in enabling these achievements.

**KEYWORDS:** *DUHS, Leadership, Academic Medical Centers, Health Systems Plans, Education, Medical, Graduate, Health Information Systems, Organ Transplantation.*

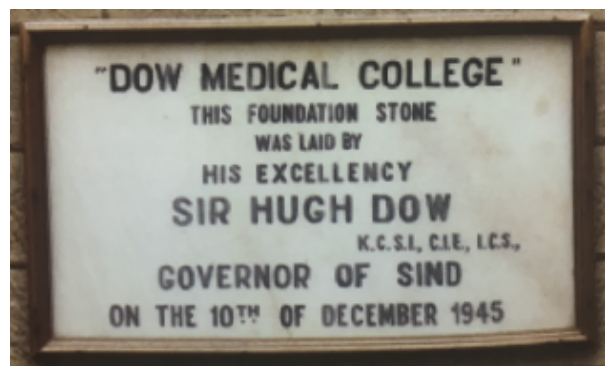
## INTRODUCTION:

DUHS is a premier medical institution in Pakistan, with a rich legacy rooted back to the founding of DMC in 1945. Initially established by the British colonial government to address the growing need for medical education in Sindh, DMC quickly rose to prominence as one of the most esteemed medical colleges in South Asia. Named after Sir Hugh Dow, then-Governor of Sindh, the institution became synonymous with excellence in clinical training and academic rigor. For decades, it was affiliated with

the University of Karachi and produced generations of skilled physicians who served across Pakistan and internationally.

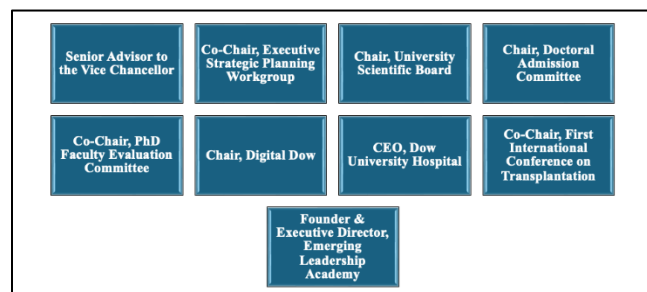
In 2003, recognizing the need to expand the scope and autonomy of medical education and healthcare delivery, the Government of Sindh transitioned DMC into DUHS. This transformation enabled the institution to evolve from a standalone medical college into a comprehensive university with multiple campuses and a diverse range of academic programs. Today, DUHS comprises 44 colleges,

schools, and institutes, as well as numerous other nonacademic entities. This evolution has enabled DUHS to integrate diverse disciplines under one umbrella, fostering an interdisciplinary culture focused on healthcare innovation, research excellence, and community service.



As DUHS has grown in stature and scope, it has adopted modernization across educational delivery, clinical services, research, innovation, and digital infrastructure. The university has emerged not only as a hub of academic excellence but also as a key stakeholder in Pakistan’s public health landscape. This context provided an ideal platform for institutional transformation led by SR, an accomplished alumnus with global academic and clinical experience. Since his association with DUHS in 2018, SR has worked collaboratively in various capacities with the university’s leadership to design a future-ready institution that leverages data-driven decision-making, technology integration, and strategic foresight to address emerging challenges in the health sciences (Figure 1).

**Figure 1:** Strategic and Academic Leadership Appointments at DUHS (2018 – Current)



The following sections provide an in-depth examination of SR’s transformative contributions across strategic planning, education, research, clinical innovation, digital transformation, and global collaboration. *His story reflects the profound impact that committed alumni can have on their alma mater when empowered by visionary leadership, mutual trust, accountability, delegation of authority, a collective purpose, and an inexorable passion.*

### Strategic Planning and Implementation

SR has played a transformative role in defining the strategic vision of DUHS by leading the formulation of the DUHS Strategic Plans (2018–2024 and 2024–2030) in close collaboration with the Executive Strategic Planning & Implementation Workgroup (1, 2). SR’s leadership not only positioned DUHS as a pioneer in strategic governance but also established it as the first public-sector university in Pakistan to develop a comprehensive institutional strategic plan (Figure 2). Moreover, DUHS became the first university nationwide, across both public and private sectors, to implement unit-specific strategic plans that directly complemented and operationalized the broader institutional strategy. These efforts culminated in the drafting of a new vision and mission, which served as a unifying call to action for the university and are now prominently displayed across the two campuses as a constant reminder of its shared purpose and direction.

**VISION**

To be a pre-eminent academic institution committed to changing and saving lives

**MISSION**

Providing outstanding patient-centered education, training, and clinical care informed by cutting-edge research and innovation,

Working collaboratively with the Executive Strategic Planning & Implementation Workgroup, SR guided the development of over 50 unit-level

strategies across academic, research, clinical, and administrative domains. These strategies focused on curriculum reform, faculty development, infrastructure enhancement, and digital integration, all tailored to DUHS's unique geographic and institutional context while being informed by international best practices and global trends in health professions education. The university's Master Strategic Plan 2024-2030 and the unit-specific strategic plans have been approved by the university Syndicate (1).

**Figure 2:** Master Strategic Plan 2024-2030



In 2019, at SR's recommendation, the Vice Chancellor and the university syndicate approved the establishment of the Office of Strategic Development & Implementation (OSDI) to ensure the systematic execution of the strategic vision. OSDI was tasked with monitoring Key Performance Indicators (KPIs), facilitating cross-departmental coordination, and ensuring alignment with both national regulatory requirements and global academic standards. Through this office, DUHS

institutionalized a data-driven, outcome-oriented culture that emphasizes transparency, continuous improvement, and evidence-based planning.

Recognizing the need, SR also initiated targeted leadership development workshops to build the strategic and operational capacity of academic and administrative leaders. These programs have played a critical role in fostering a culture of ownership, collaboration, and innovation across all DUHS campuses. Under Vice Chancellor's strategic leadership and SR's cooperation with the Executive Strategic Planning Workgroup, DUHS has set a national benchmark for academic institutions in Pakistan, demonstrating that thoughtful, inclusive, and rigorously implemented planning can transform a public university into a model of excellence, resilience, and innovation.



### Academic Innovation and Graduate Education

SR has been at the forefront of transforming graduate education and fostering academic innovation at DUHS. His efforts and with Vice Chancellor's support resulted in the establishment of two pioneering institutions: the School of Postgraduate Studies (3), which serves as the university's central hub for doctoral and master's level training, and the DOW-APPNA Center for Emerging Technologies (DACET), which focuses on the convergence of health, artificial intelligence, and biotechnology.

As Co-chair of the PhD Faculty Evaluation Committee (4) and Chair of the Doctoral Admissions Committee (5), the two-university syndicate-approved bodies, SR implemented robust academic frameworks that strengthened research quality and academic integrity across all graduate programs. He introduced structured admissions protocols, transparent mentorship guidelines, and performance metrics to elevate faculty supervision and ensure rigorous doctoral training. His leadership also led to the publication of the Graduate Student Handbook, which provides comprehensive guidance on academic, ethical, and administrative matters to support the success of graduate students.

Under his leadership and with the support of the Vice Chancellor, DUHS launched several new PhD and master's programs aligned with emerging global health priorities and labor market trends. Faculty retreats and capacity-building workshops organized under his leadership further enhanced the mentorship culture, strengthened interdisciplinary collaboration, and ensured faculty preparedness in research supervision. These collective initiatives have positioned DUHS as a national leader in graduate medical and health sciences education, fostering a high-impact academic environment that equips graduates not only to meet international standards but also to make meaningful contributions to global health solutions.

A cornerstone of this innovation agenda is DACET, which is rapidly evolving into a nationally recognized platform for the development and translational research of health technologies. With dedicated focus areas in artificial intelligence, biotechnology, telemedicine, and digital health, DACET offers a collaborative ecosystem that enables students, clinicians, and researchers to explore the real-world applications of emerging technologies. It actively promotes cross-disciplinary research, fosters innovation in diagnostics and patient care, and facilitates the commercialization of research outcomes, bridging the gap between academia and industry. Through these visionary efforts, with the unwavering support of the Vice

Chancellor, the faculty, and the staff, SR has helped build a future-ready graduate education infrastructure that reflects global academic excellence while addressing the local and regional health challenges of the 21st century.

### **Research Advancement and Scientific Leadership**

As Co-chair of the University Scientific Board (a university syndicate-approved entity), SR has significantly elevated the research enterprise at DUHS, anchoring it in academic rigor, ethical integrity, and international relevance. Under his leadership, the university implemented stringent peer-review protocols, enforced clear research governance policies, and championed interdisciplinary collaboration to align DUHS's research portfolio with global scientific standards.

A landmark initiative during his tenure was the launch of the Vice Chancellor's Seed Funding (6). Initiative in 2019, designed to foster early-stage, high-potential research projects. In its fourth year of funding, a key initiative of the Vice Chancellor, this competitive interdisciplinary program provides



critical initial support for faculty and graduate students to conduct novel investigations in priority areas, including oncology, infectious diseases,

pharmacogenomics, regenerative medicine, artificial intelligence, biotechnology, and digital health. By bridging the gap between concept development and large-scale external funding, this initiative catalyzed a measurable increase in peer-reviewed publications, national and international grants, and translational research outputs. Through these initiatives, DUHS has emerged as a frontrunner in Pakistan's research landscape, fostering innovation, enhancing grant competitiveness, and positioning the university as a driver of scientific advancement and health innovation.

### Clinical Services and Hospital Leadership

As Chief Executive Officer of Dow University Hospital (2019–2020), SR led a sweeping transformation of the university's clinical services, bringing innovation, operational efficiency, and patient-centered care to the forefront. His tenure was marked by significant advancements in nursing, inpatient and outpatient services, and clinical pharmacy services, strengthening the hospital's capabilities as a tertiary care academic medical center.

With the approval of the Vice Chancellor, SR undertook a comprehensive restructuring of Dow University Hospital's administrative framework to align it with global standards for modern healthcare institutions. Recognizing the need for financial autonomy and accountability, he established the position of Chief Financial Officer (CFO) to oversee the hospital's growing financial operations and to provide a degree of operational independence from the university's central finance directorate.

To further strengthen clinical governance and patient-centered operations, he also introduced key leadership roles, including the Chief Nursing Officer (CNO) and Head of Pharmacy Services, alongside the establishment of an independent Office of Quality Assurance. These structural reforms were designed not only to enhance operational efficiency and clinical oversight but also to embed a culture of

evidence-based practice and patient-first care across all hospital departments.

SR also played a pivotal role in the digital transformation of clinical services by leading the development and implementation of the Hospital Medical Information System (HMIS), which served as an Electronic Medical Records (EMR) across Dow University Hospital. Working closely with the university's IT team, he provided strategic direction and functional oversight to ensure the EMR system was aligned with the needs of clinicians, nurses, and administrators. His leadership facilitated the seamless integration of clinical workflows, resulting in improved documentation accuracy, real-time data access, and continuity of care.

In addition, working with the relevant subject-matter experts, SR also spearheaded the design and rollout of a Laboratory Information Management System (LIMS) within the Dow Diagnostic Research and Reference Laboratory (DDRRL), enabling end-to-end tracking of diagnostic samples, automation of test reporting, and enhanced quality control. These digital platforms significantly improved operational efficiency, reduced errors, and laid the groundwork for a data-driven, patient-centered model of care delivery. SR's contributions were instrumental in positioning DUHS as one of the few public-sector institutions in Pakistan with an integrated health information infrastructure. These changes positioned DUHS as a regional referral hub for complex and high-risk medical and surgical cases, particularly in underserved populations.

Beyond hospital operations and under the auspices of The Transplantation Society and the International Living Transplantation Society, SR played a key role in developing a paired transplant program in collaboration with the University of Chicago, marking a groundbreaking achievement in organ transplantation in Pakistan. This initiative aimed to address the growing need for organ transplants, particularly kidney and liver transplants, by

leveraging paired exchange transplantation strategies.



His efforts in developing this program facilitated clinical knowledge exchange, surgical training collaborations, and research partnerships between DUHS and the University of Chicago, leading to the adoption of advanced transplant protocols, improvements in immunosuppressive therapies, and better post-transplant patient outcomes. The program was a milestone for DUHS's transplant medicine capabilities, positioning Dow University Hospital as a leading center for organ transplantation in Pakistan.

### **Digital Transformation: Dow Digital**

Under the leadership of SR and as mandated by the Master Strategic Plan, DUHS embarked on a comprehensive digital transformation initiative, branded as Dow Digital, positioning the institution at the forefront of public-sector innovation in Pakistan. As part of this initiative, DUHS became the first public university in Pakistan to implement Microsoft Dynamics 365 for its financial, supply chain, and business operations. This groundbreaking adoption automated core administrative functions, streamlined procurement workflows, enhanced fiscal oversight, and ensured real-time, transparent reporting, laying the foundation for data-driven decision-making and operational efficiency.

As stated previously, in parallel, SR oversaw the deployment of a fully integrated HMIS and LIS across DUHS hospitals, clinical centers, diagnostic laboratories, and the Dow Institute for Radiology. These digital health platforms revolutionized patient care delivery by enabling real-time access to clinical data, minimizing redundancies in diagnostics and

treatment, and improving care coordination across DUHS's multiple campuses. The systems also supported improved infection control, medical record accuracy, and continuity of care, particularly in complex, multi-specialty cases.

Recognizing the importance of stakeholder engagement and as a key project of the Vice Chancellor, SR led a significant redesign of the DUHS official website, transforming it into a robust digital interface for students, patients, faculty, and the general public (8). The new platform features updated information about the core missions of DUHS, department and faculty updates, academic calendars, secure online payments, e-learning modules, and real-time access to diagnostic test results. These enhancements have significantly improved transparency, accessibility, and institutional responsiveness.

Collectively, these initiatives under Dow Digital have set a national precedent for how public-sector academic health institutions can leverage digital technologies to enhance service delivery, improve patient and student experiences, and foster a culture of innovation and accountability.

### **First International Conference on Transplantation (April 2025)**

SR played a key leadership role as Co-chair of the Organizing Committee for the First International Conference on Transplantation, held from April 9 to 13, 2025, in Karachi, Pakistan (9). This landmark event was designed to bring together global experts, clinicians, researchers, policymakers, religious scholars, and industry leaders to discuss advancements and challenges in organ transplantation, tissue engineering, and transplant ethics. Under the leadership of the Vice Chancellor, the conference participants showcased cutting-edge research in transplantation medicine, including innovative surgical techniques, immunosuppressive therapies, digital pathology, and advancements in organ preservation technologies. It also addressed pressing ethical, legal, and policy challenges

surrounding organ donation and allocation, particularly in Pakistan, with low donor rates and regulatory complexities.

program, securing international alliances, and engaging key stakeholders, including government agencies and non-governmental organizations, to align the conference's goals with Pakistan's national healthcare strategy.

The conference is expected to have a long-term impact by developing standardized transplant protocols, influencing policy recommendations for ethical organ donation systems, and fostering global collaborations between DUHS and leading transplant centers.

### Emerging Leadership Academy

SR serves as the founder and executive director of the Emerging Leadership Academy (ELA) at DUHS, a visionary initiative launched as one of the key priorities of the Vice Chancellor and formally mandated in the DUHS Master Strategic Plan (10). Established in 2023, ELA reflects the university's strategic commitment to cultivating a new generation of academic, clinical, and administrative leaders prepared to navigate the evolving challenges of healthcare and higher education.

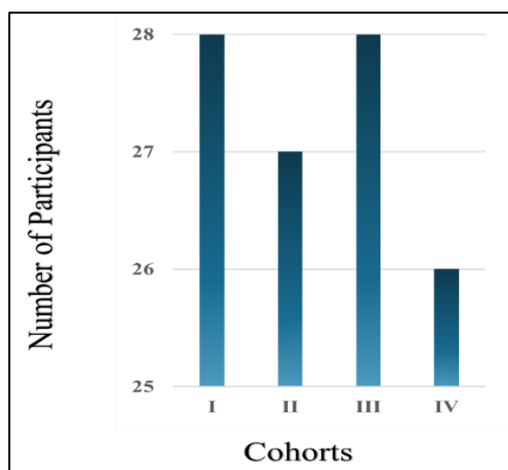


The event featured plenary talks by internationally renowned experts from institutions such as the University of Chicago, the University of Maryland, the University of Insubria, and CorePath Laboratories, along with hands-on workshops on minimally invasive transplant techniques, robotic-assisted surgery, and post-transplant care. Panel discussions explored critical issues such as organ trafficking, fair allocation policies, and the role of artificial organs in the future of transplantation. Additionally, the conference served as a platform for networking and collaborative research, facilitating academic partnerships, grant funding opportunities, and inter-institutional exchange programs. SR played a pivotal role in shaping the scientific



At the heart of the academy is its flagship offering, “Mastering the Art of Effective Leadership,” a 12-week, 36-hour structured leadership development program. Designed to cultivate high-potential students across DUHS, the program has successfully graduated three cohorts, with the fourth cohort currently enrolled (Figure 3). Participants in this team-taught program engage in a comprehensive curriculum that develops core competencies in servant leadership, strategic communication, ethical decision-making, emotional intelligence, accountability, trusting teams, time management, and handling difficult conversations. These foundational skills are essential for shaping institutional policy, leading multidisciplinary teams, and driving excellence in complex healthcare and academic environments. The program’s combination of classroom learning, reflective exercises, and real-world application makes it a cornerstone of leadership development for students at DUHS. By operationalizing a key component of the university’s strategic roadmap, SR has helped position DUHS as a national model for leadership development in academic medicine, solidifying its role as a cradle of thought leadership in health systems governance and medical education.

**Figure 3:** Enrollment Trends Across Four Cohorts in the Mastering the Art of Effective Leadership program, Emerging Leadership Academy



## CONCLUSION

SR’s tenure at DUHS stands as a testament to visionary leadership rooted in academic rigor, scientific advancement, digital transformation, and institutional sustainability. Through a comprehensive portfolio of initiatives spanning strategic planning, graduate education reform, digital health integration, research infrastructure development, clinical excellence, and leadership training, DUHS was elevated to new heights of national and international recognition.

His efforts have empowered faculty, inspired students, and modernized systems, all while maintaining a focus on patient care, educational quality, and ethical governance. These accomplishments have been made possible through the visionary support of Vice Chancellor Prof. Muhammad Saeed Quraishy and the collective commitment of DUHS’s academic and administrative leadership, as well as its dedicated faculty and staff, demonstrating the profound impact of collaborative and inclusive leadership.

*SR’s contributions reflect what is possible when an engaged alumnus returns to serve with purpose and passion. By aligning institutional vision with effective execution, cultivating human capital, and building enduring partnerships, he has redefined what public-sector academic medical institutions in Pakistan can achieve.*

SR’s journey at DUHS stands as a blueprint for transformative leadership, anchored in integrity, innovation, service, and strategic foresight. ***The success of such a far-reaching and impactful institutional agenda is only possible through the trust, collaboration, and sustained engagement of key stakeholders, which he has been fortunate to foster and maintain.*** As DUHS continues its trajectory toward becoming a globally competitive center of academic and healthcare excellence, SR remains deeply committed to advancing its mission, championing its values, and shaping its future with unwavering dedication.

## ACKNOWLEDGMENTS

The author extends sincere gratitude to the former Vice Chancellor and Meritorious Professor Muhammad Saeed Quraishy for his trust and delegation of authority to accomplish these tasks. Special thanks to Pro-Vice Chancellors Prof. Nazli Hossain and Prof. Jahan Ara Hasan, Registrar Prof. Ashar Afaq, Mr. Muhammad Babar (Director, OSDI), Mr. Khurram Ahmad, and the dedicated faculty, staff, and students of DUHS for their invaluable support, collaboration, and shared commitment to the university's advancement. Their trust, collegiality, and unwavering dedication have been instrumental in translating vision into action and in driving meaningful, sustained progress. The collective spirit of teamwork and mutual respect among these individuals has been a cornerstone in shaping a bold and forward-looking future for DUHS.

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**Disclosures:** None

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