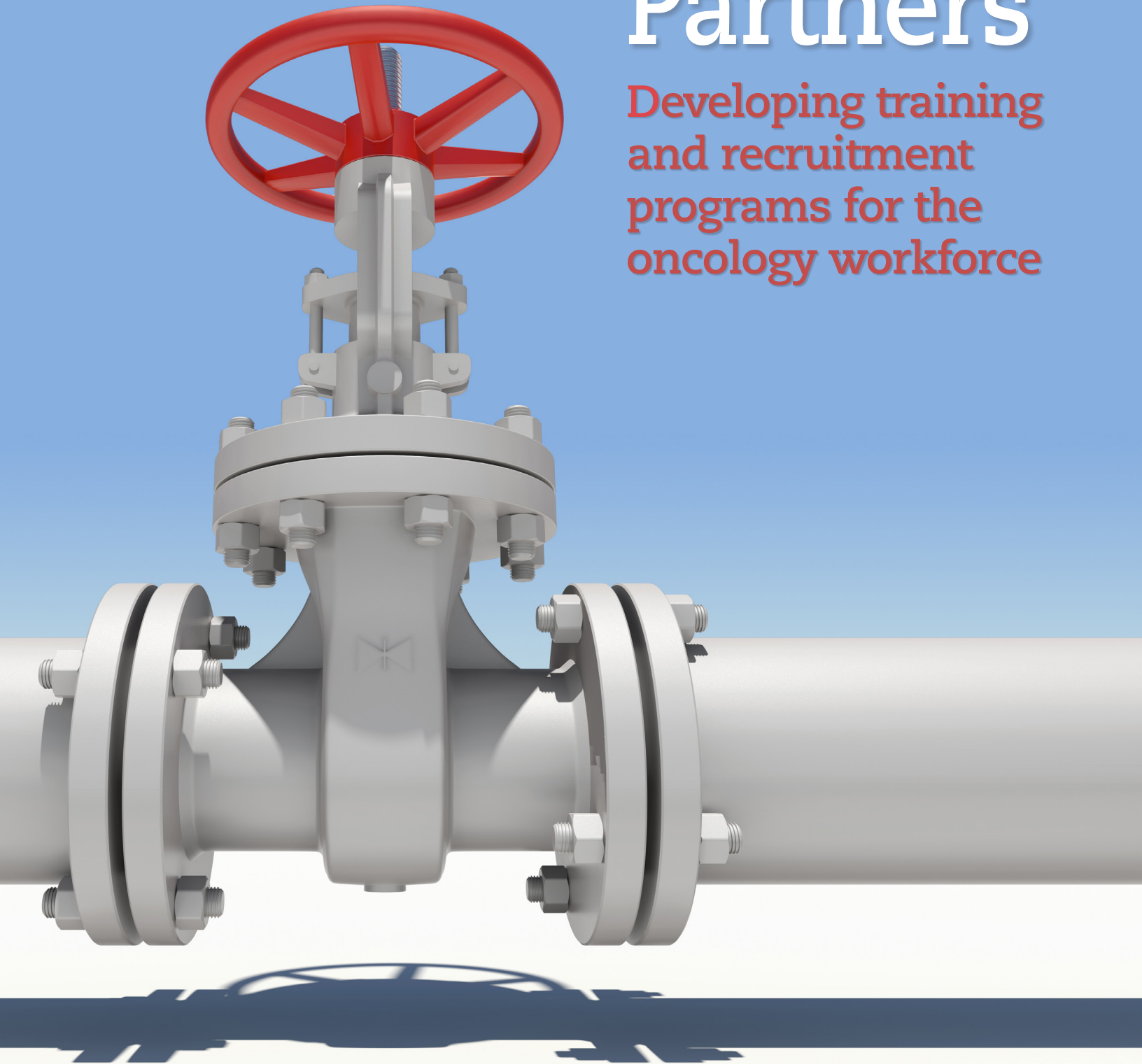


Pipeline Partners

Developing training and recruitment programs for the oncology workforce



With the ongoing workforce challenges plaguing the health care industry, health systems are developing new and innovative strategies to bolster their pipeline of health care employees to meet growing patient needs. In oncology, the challenge of attracting, recruiting, and retaining qualified team members is especially acute. Through strategic partnerships with groups across the health care landscape, Inova Schar Cancer (Inova Schar) in Fairfax, Virginia, has successfully addressed some of these acute needs within the areas of clinical research, phlebotomy, medical physics, and dosimetry.

Clinical Research

In 2021, Inova Schar's clinical research team was experiencing higher-than-expected turnover rates. As is common with people filling various clinical research roles, team members were leaving for good reasons including enrollment in medical school, nursing school, and other graduate or educational programs. However, this turnover was exacerbated by the COVID-19 pandemic, resulting in new challenges to retain and attract team members. By the end of 2020, the clinical research team was facing a risk of insufficient staffing for the Inova Schar's growing research volumes.

To address the anticipated need, senior director Stephanie Van Bebber, MSc, CCRP, senior director of the clinical trials office at Inova Schar, and her leaders began to brainstorm ideas to foster interest in clinical research both internally and externally. Key initiatives included building a robust education and training program for both non-research and research personnel, professionalizing the research positions, and creating a program to develop a future pipeline for clinical research professionals.

Focusing on Retention and Internal Recruitment Through Education and Training

Within the cancer program, Van Bebber's team began an annual educational program for existing staff and employees. Through 1-hour voluntary online lectures, the clinical research team educates non-research team members on the value of clinical research, the types of roles that may be available, and the process for learning more about the clinical research program. Stephanie also joins the introductory orientation for all incoming Inova Schar team members

across the service line to provide a brief 5-minute introduction to clinical research and its role in the cancer program. Finally, the team shares key accomplishments from the previous year with all members of the cancer center through the Inova Schar Oncology town halls.

In addition to internal education and awareness building, the team developed a robust training and education program to ensure that new and existing research team members acquired the skills and competencies required for their roles. An experienced clinical research nurse was transitioned to a role on the Inova Schar Oncology Research Quality Management team to support this program. This full-time position provides unique 30-, 60-, and 90-day trainings and ongoing education for all oncology research personnel. The research nurse is also available in real time to solve problems with team members and to retrain on any skills as needed.

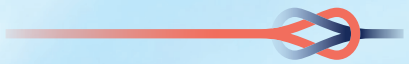
Creating a Tiered Structure to Promote Professional Research Roles

To promote team member retention, Van Bebber was a co-leader of a committee of research managers across the system to develop and implement the Research Initiative for Staff Enrichment (RISE) program, a professional career ladder at Inova Schar. Patterned after Inova Schar's nurse development program and based on competencies developed by the Association of Clinical Research Professionals, RISE allows research team members to benefit from a 3-tiered career ladder. The program gives a professional identity to research roles at Inova Schar and provides team members with a clear mechanism for internal advancement.

Building a Pipeline for Future Clinical Research Professionals

To build a pipeline for future research personnel, the team created a unique clinical research internship program for local high school and college students. The goal of the program is to enhance the students' understanding of clinical research while giving them hands-on experience during the summer. In particular, the team focused on clinical research from the perspective of a site of care and included shadowing of research personnel.

(Continued on page 9)



SARCLISA[®]
(isatuximab-irfc)

Injection for IV use | 500 mg/25 mL, 100 mg/5 mL

SARCLISA + VRd is
NOW
APPROVED

Discover the data from
the IMROZ trial at
sarclisahcp.com



VRd=bortezomib, lenalidomide, and dexamethasone.

sanofi

We’ve found that if the students gain an understanding of research early on their career, they are more likely to include some component of research later on—regardless of the type of health care role they go on to hold.”

STEPHANIE VAN BEBBER, MSC, CCRP
SENIOR DIRECTOR OF THE CLINICAL TRIALS OFFICE AT INOVA SCHAR

In early 2022, Inova Schar reached out to institutions in its local area such as George Mason University, Howard University, RTI International, Shenandoah University, George Washington University, and the University of Virginia to spread the word about this new educational plan. During the program’s first year, Inova Schar received more than 40 applications; 6 interns were then selected for the summer program. Due to the volume of applications received since then, word of mouth has been the only marketing method needed. All interns receive stipends and borrow a laptop; over a 9-week period, they work on research projects with physician mentors. Students undergo background checks and the same onboarding processes that any full-time Inova Schar employee would complete; essentially, they are considered non-employed research staff. This recognition allows interns to transition seamlessly into either full- or part-time team members at the end of their internship period.

Figure 1. Inova Schar Intern Boot Camp

LOCATION:	Inova Schar Cancer, Location TBD				
TIME:	Monday-Friday, 9 AM–4 PM				
TIME/LOCATION	MONDAY, JUNE 17, 2024 X CONF ROOM	TUESDAY, JUNE 18, 2024 X CONF ROOM	WEDNESDAY, JUNE 19, 2024 X CONF ROOM	THURSDAY, JUNE 20, 2024 X CONF ROOM	FRIDAY, JUNE 21, 2024 X CONF ROOM
9 AM–10 AM	Welcome and introductions	Inova Schar for new student interns Project assignments and laptop distribution	Introduction to clinical research data	Introduction to quality management	Practical skills for clinical research
10 AM–11 AM	What is clinical research?	Introduction to a clinical research protocol	Screening and prevention research: intro to Saville and its program	A day in the life of a clinical researcher	
11 AM–12 PM	Protecting human subjects in research	Meet the team	Building tour	Introduction to radiation oncology and tour	
12 PM–1 PM	Lunch provided	Lunch with the chief technology officer	Lunch provided	Lunch provided	Lunch provided
1 PM–2 PM	Health technology in clinical research	Stages of a clinical trial	Research as a career Tips to success	Introduction to research pharmacy	TBD
2 PM–3 PM	An introduction to biospecimens in clinical research	How to conduct a chart review	Introduction to phase 1 research	Pharmacy tours	
3 PM–4 PM	Tour of the research laboratory and hands on training				

The clinical research internship program kicks off the summer with a 1-week on-site intensive orientation (Figure 1). Students learn from in-person immersion about the roles of each member on the clinical trials team. Every clinical research team member participates in the week's events; these range from educational presentations to research blood draw observations to electrocardiography trainings to an afternoon of professionals recounting stories about working in various roles. Students wear white laboratory coats for the day and work arm-in-arm with the Inova Schar clinical research team members. Student feedback has been incredible, but even more powerful is the feedback from the clinical research team members themselves. Several have expressed that participation in this program reignited their passion for their roles. Many staff members have encouraged friends and others to apply for the summer internship. Not only has team member engagement and retention improved, but Inova Schar has developed a pipeline for future clinical research team members.

Phlebotomy and Laboratory Services

Prior to 2021, Inova Schar's central laboratory team was experiencing excessive vacancy rates of nearly 20%. For a team of nearly 100 members, these high vacancy rates significantly impacted laboratory operations across the system. Without adequate phlebotomy support to cover multiple Inova Schar sites, certain locations were shuttered with remaining phlebotomists having to travel to any other sites within the system. To combat this challenge, the Inova Schar laboratory team took a 2-pronged approach to expand the pool of potential phlebotomy candidates: revising job requirements and starting its own Inova Schar Phlebotomy School.

To broaden the pool of potential phlebotomy candidates, the team started by adjusting the minimum requirements for the phlebotomy role overall. At the time, the description for the phlebotomy position specified that candidates must have 2 years of experience, which significantly limited the number of qualified applicants for any open positions. By removing this requirement, applicants could apply directly out of their training program. This change helped expand the pool of eligible candidates, yet the number of applications received was still low, prompting the team to explore development of its own phlebotomy school within the Inova Health System.

With the help of the Inova Schar Laboratories Outreach Department, the team contacted the State Council for Higher Education for Virginia (www.schev.edu) to understand requirements for a proposed Inova-run phlebotomy school. Through the leadership of Beth Deaton, director of Inova Reference Laboratories; Fredericka Richardson, program director of the Inova Phlebotomy School; and Aalia Decamp, program director of the Inova Phlebotomy School; the team worked on the state application for a year before submitting. During this time, the team was also working to finalize the infrastructure and support needed to operationalize a training program of this size. In late 2020, the team received word that its efforts had paid off, and the Inova Phlebotomy School was to become a reality.

The Inova Phlebotomy School is a part-time, 10-week training program that teaches the art of venipunctures via lecture, laboratory work, and clinical internship. The program goal is to provide students with a high degree of professionalism and personal confidence and prepare them for achieving a passing score on the American Society

“The students [who] we are graduating are very high caliber in their knowledge and learning. Nearly all have passed the national examination for phlebotomy. I don't know of anyone who has attempted [the examination] and not been successful. It took a little time to get the program off the ground, but the team behind it has embraced the work. It has brought the team closer together, decreased our vacancy rates, and made the work so worthwhile.”

BETH DEATON
DIRECTOR OF INOVA REFERENCE LABORATORIES

of Clinical Phlebotomy (ASCP) Board of Registry Certification Examination. Applicants to the program must be at least 18 years of age, have a high school diploma or general educational development certification, and be able to speak, read, and understand English. Recent programs have included 10 or more students, with approximately half of graduates joining Inova Schar upon passing their ASCP examination.

The Inova Phlebotomy School accepted its first class of 10 students in early 2021. Recruitment was done initially through word of mouth only. Students are required to submit applications and complete background checks, health screening, and all required training and orientation for a full-time Inova Schar team member. Similar to participants in Inova's existing medical laboratory scientist and histology programs, students in the Inova Phlebotomy School are entered into the human resources system as team members. Inova recruitment helped with onboarding.

In addition to meeting components of the application, students are required to pay a \$1700 tuition fee or apply for a tuition waiver. Students who apply for the waiver must be interviewed; upon their acceptance, the tuition fee is waived in exchange for them working at Inova Health System for 18 months after they complete the program. Some students may already have a full-time job outside Inova or may be full-time students, so they decide not to accept the waiver. Regardless of whether students accept the waiver or not, all students are eligible to be hired on an as-needed basis for Inova following their training.

During the 10-week internship, students learn through practical and didactic training by existing Inova Schar laboratory team members who incorporate various learning styles that align with different backgrounds. Developing current team members to become trainers

was a challenge. Ultimately, their passion as they trained new phlebotomists was obvious. Inova Blood Donor Services conducts a class for each cohort of students as well, and the 2-week on-site internship can be accomplished at many sites across the Inova system. To graduate, students must complete 100 independent sticks successfully and meet the job duties of a full-time phlebotomist.

Since the first class of 2021, Inova Schar has offered 3 phlebotomy classes a year of varying size. The current class has 15 students, but the team suggested that the ideal and most manageable program size includes 10 to 12 students. Inova Schar has hired approximately 50% of each class with placements across the system. Due to the success of the Inova Phlebotomy School, current vacancy rates now hover around 6% at their highest. More often, the vacancy rate is as low as 3% across the system.

Although Deaton and her leadership team are still running the Inova Phlebotomy School and teaching, they recently hired a program education coordinator to administer the program. This role is a 0.7 full-time equivalent; the coordinator runs 8 weeks of classroom learning with 2 weeks of on-site internship. Between classes, the coordinator handles administrative issues such as recruiting and interviewing. Current recruitment is now done via social media. Generally, review of all applications takes about a month before potential students begin their background checks and other requirements.

“The opportunity to teach is really a win-win; it’s helping to educate our community about the role of medical physics, establishing solid partnerships between our health system and local universities and opening the door to growth opportunities all around.”

JIAJIN “JAMES” FAN, PHD, DABR
DIRECTOR AND SYSTEM CHIEF OF THE MEDICAL PHYSICS PROGRAM

Radiation Oncology: Dosimetry

As with the areas of clinical research and phlebotomy, the Department of Advanced Radiation Oncology and Proton Therapy was experiencing the same challenges with team member recruitment, retention, and vacancy rates in recent years. A small handful of dosimetrists within the Inova Schar team were graduates of the program at University of Wisconsin–La Crosse (UW-La Crosse), and leaders were very impressed with the quality of their training. After a number of calls between Inova Schar and UW-La Crosse, Inova Schar was approved as a clinical site for the master’s level medical dosimetry program starting in 2023.

UW-La Crosse students may enroll full-time or part-time for the 18-month medical dosimetry program and spend 1 year (January–December) working on site at a designated clinical location. Upon completing the program, students will have a master’s degree in medical dosimetry and will be board eligible. The clinical internship includes 32 hours per week of collaboration with certified medical physicists and dosimetrists that expose students to quality assurance procedures, real-time clinical cases, and treatment planning. There are also 8 hours per week of didactic work provided by UW-La Crosse that include projects, laboratory work, and discussion board topics that students can apply in their respective clinic settings.

Inova Schar kicked off the program in 2023 with 1 student on site in Fairfax, Virginia. After successful completion of the program, the student accepted an offer for an as-needed dosimetry role within Inova Schar, which may eventually lead to a full time opportunity. In 2025 (the third year of the program), the intent is to increase to 2 students per year.

The partnership between Inova Schar and UW-La Crosse has not only been successful in filling vacancies—it has also ignited an interest among existing Inova health care team members to learn more about medical dosimetry. Since starting the on-site clinical program, team members in radiation therapy, physicist assistants, MRI technology, and radiology roles have completed a 2-day shadowing program to help educate them on the role of the dosimetrist. Through on-site and real-time observations, team members gain a better understanding of the role that medical dosimetry plays in a patient’s treatment journey and sparks their possible interest in applying to the program.

Radiation Oncology: Medical Physics

To increase the pipeline of medical physicist candidates, Inova Schar has applied for accreditation of a medical physics residency. The 2-year medical physics residency program includes a CAMPEP Accredited Residency Program in Medical Physics in which students rotate through multiple aspects of all physics and dosimetry services in radiation oncology. If accepted as an accredited location, Inova Schar will accept 1 resident per year; there will be 1 resident for the first year of the program and 2 residents (1 senior and 1 junior) per year thereafter. Applicants to the program must have earned a master’s or doctor of medicine degree in medical physics or a doctor of philosophy degree in radiology or a related field and have completed medical physics certificate courses. Upon completion of the program, graduates will be qualified to apply for the American Board of Radiology Certification and will be qualified to work as a medical physicist. Inova Schar anticipates a final response to their application in 2024, with the first potential resident enrolling in 2025.

Teaching has emerged as an interest for the current medical physics team, so Inova Schar has partnered with regional universities such as George Mason University in Fairfax, Virginia, and Howard University in Washington, DC. Last fall, a team of 6 medical physicists from Inova Schar volunteered to teach a medical imaging course to George Mason undergraduate students. During the 3-credit course held twice a week over a full semester, instructors discussed the science behind medical imaging technologies such as CT, MRI, and other modalities (Figure 2). In addition to the undergraduate course, the

(Continued on page 13)

Figure 2. Sample Draft Syllabus for Undergraduate Medical Imaging Course


DATE	LECTURE	TOPIC
WEEK 1		
8/22	1	Introduction, Physics of X-ray imaging, image quality
8/24	2	Continue
WEEK 2		
8/29	3	Projection radiography
8/31	4	Continue
WEEK 3		
9/5		Library and research tools
9/7	5	Signals, systems, transformation
WEEK 4		
9/12	6	Continue
9/14	7	Computed tomography
WEEK 5		
9/19	8	Continue
9/21	9	Continue
WEEK 6		
9/26	10	Continue
9/28	11	Writing lecture
WEEK 7		
10/3	12	MRI
10/5	13	Continue, draft of first paper due to teaching assistant
WEEK 8		
10/10		Fall break, no class (Monday classes meet on this day instead)
10/12	14	Continue
WEEK 9		
10/17		Continue
10/19		Mid-term
WEEK 10		
10/24	15	PET/SPECT
10/26	16	Continue, final first paper due to teaching assistant
WEEK 11		
10/31	17	Continue
11/2	18	Continue
WEEK 12		
11/7	19	Ultrasound
11/9	20	Continue, draft of second paper due to teaching assistant
WEEK 13		
11/14	21	Continue
11/15	22	Continue, final second paper due to teach assistant

(Continued from page 11)

physicist team at Inova Schar is now exploring a possible medical physics course for graduate students at George Mason. Inova Schar is also working with Howard University to have medical physicists teach seminars for the master's level students in the 2-year program. Accredited by CAMPEP, Howard University's program includes a minimum of 4 students per year. Discussions are underway about the potential for hands-on experiential learning for the students at Inova. The opportunity to teach and be named as professors was a draw for many of Inova Schar's medical physicists and has greatly increased retention among the team.

As 1 of 46 proton therapy centers in the United States, Inova Schar also teaches students through on-site rotations in the proton therapy program. During these 1-week on site rotations, residents from medical physics programs like the University of North Carolina and Novant Health Cancer Institute can shadow the team and observe proton physicists in action within a clinical setting. The experience benefits the residents and serves as a satisfier for existing Inova Schar physicists who have an opportunity to train the physicists of the future.

Closing Thoughts

Each of these programs is new to Inova Schar, and they may offer limited outcome data thus far. However, leaders of the cancer program are confident that these pipelines will have a measurable impact on the training and recruitment of qualified candidates to their clinical research, medical dosimetry, medical physics, and phlebotomy teams for years to come. Partnerships developed can prove that regardless of the job role, collaborative thinking and a willingness to train students provides incredible benefits for any cancer program. 

Laura Matthews, MBA, MPH, FACHE, is the vice president and administrator of Inova Schar Cancer, Inova Health System in Falls Church, Virginia. Natalie Brawner, MHA, is senior director of Inova Schar Cancer, Inova Health System in Falls Church, Virginia.

Our Program At-a-Glance

Inova Schar Cancer is a state-of-the-art cancer care destination designed to meet the needs of our evolving region and to bring healing and hope to our patients in the Metro DC area. Our physicians are experts in specific cancers; they work in multidisciplinary teams that allow new patients meet with their surgeon, medical oncologist, and radiation oncologist together and get a personalized and coordinated care plan. All care is provided under 1 roof as part of the same comprehensive program. Our team of more than 1000 doctors, researchers, nurses, cancer specialists, and emotional support experts at our Life with Cancer[®] program delivers the highest standard of compassionate, collaborative, and holistic cancer care that is customized to the needs of each patient.