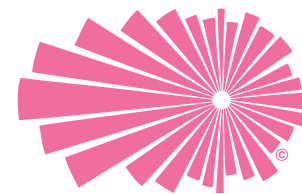


Supporting HOPE



Rays of Hope

Walk & Run Toward the Cure of Breast Cancer

A Newsletter of

Baystate Health Foundation

NUMBER 48 • FALL 2022

Back Together Again!



You may have heard the rumors – and they're true! We are excited to be hosting our first in-person Rays of Hope Walk & Run Toward the Cure of Breast Cancer in two years and hopeful we'll see you there. Save the date for this year's event on Sunday, October 23, 2022.

"I'm looking forward to seeing new but also familiar faces at this year's event," said Michelle Graci, Manager of Events at the Baystate Health Foundation. "We have so many faithful participants who come each year to celebrate loved ones and to raise funds to support those touched by breast cancer in our communities. Seeing so many people smiling and hugging in a big sea of pink is just remarkable and extremely moving."

Rays of Hope is celebrating 29 years of supporting individuals touched by breast cancer throughout western Massachusetts. With your help, Rays of Hope has raised over \$16.1 million since 1994. These funds have stayed local to support research at the Rays of Hope Center for Breast Cancer Research, programs and services through the Baystate Health Breast Network, and community programs such as Cancer House of Hope and LIVESTRONG programs at the YMCA of Greater Springfield and YMCA of Greater Westfield.

"It is a privilege to support this community with help and hope, despite the challenges of a global pandemic. We are hopeful that every step brings us closer to a cure for breast cancer," shared Kathy Tobin, Director of Annual Giving & Events for Baystate Health Foundation. "Meanwhile, over the last 29 years, we have taken giant leaps in the treatment and care of breast cancer survivors. Together we are fulfilling founder Lucy Giuggio's vision. This year, let's raise money and spirits by coming together again to reinforce that HOPE will never be cancelled for all of our pink warriors, their caregivers and all of us who love them."

Participants at this year's Rays of Hope Walk & Run Toward the Cure of Breast Cancer can expect to see all the beloved elements that make this event so special, including the Pink Hope Survivors Lounge, where survivors receive special recognition; the Rays of Hope Store, which will be filled with new and fan-favorite merchandise; and the entertainers on stage and throughout the two- and five-mile routes. We are also thrilled to be able to bring back our annual Survivors' Photo, where our survivors who have received the COVID-19 vaccination can gather to celebrate the strength found within this incredible group.

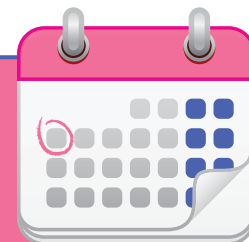
"This event is not only special to the incredible survivors, but also to the friends and family of survivors who see the walk as a way to honor and recognize the battle their loved ones fought or continue to fight every day," says Lindsey Bubar, 2022/2023 Rays of Hope Chair. "As a survivor myself, I view 'the walk' as a true celebration of grit, courage, and hope – and you can truly feel it in the air!"

For those who may still be unsure about gathering in large groups, there is the option to fundraise and walk or run any day and any place you choose. Being at the event is not required to show your support of the hundreds of individuals diagnosed each year and the thousands living in our communities.

There is still **PLENTY OF TIME** to **REGISTER** as an individual or create a team of family, friends, and colleagues.

Register online:
BaystateHealth.org/RaysofHope and start fundraising today!

Every step we take together brings us closer to the cure!



Chair's Message

Greetings friends and fellow survivors!

It's happening...it's **REALLY happening!** I'm talking about the "the walk." You know "the walk" – the music, the energy, the huge pink balloon arch, the sea of people and kids dressed in pink, and the courageous army of breast cancer survivors who make the annual Rays of Hope Walk and Run Toward the Cure of Breast Cancer what it is.

Prior to my 2017 diagnosis, I hadn't participated in the walk itself. My team – Lindsey's Tribe, organized by my awesome parents John and Sue Boudreau – walked in 2017, 2018 and 2019 with such hope and enthusiasm, but it wasn't far into the pandemic when we realized the 2020 walk wouldn't happen in-person. Then, it was further disappointing when the 2021 in-person walk had to be cancelled. Personally, I was devastated because the walk brought me so much joy and a sense of belonging, and I know so many others felt the same. Fundraising was challenging for all non-profits during the pandemic and Rays of Hope was no exception. It was so important to remind people that just because the walk was cancelled didn't mean cancer was cancelled.

So, we had to get creative. We had to figure out ways to engage the community and keep Rays of Hope in people's minds and hearts. I'm happy to say we were able to do just that with the Parade of Hope and through the wonderful groups and businesses who have hosted amazing events to support Rays of Hope.

Iron Duke Brewing in Ludlow generously provided its space for a beautiful Mother's Day celebration that included food trucks, live music, amazing raffle prizes (thanks, Thunderbirds!) and, of course, great beer! Thanks to the great turnout, we were able to raise \$3,200 for Rays of Hope. Another special shout out to the Massachusetts Taekwondo Academy in East Longmeadow for hosting its first ever "KICK Cancer" competition through which every

dollar of the \$1,300 raised went back to Rays of Hope. And I'd be remiss if I didn't acknowledge the incredible generosity of and partnership with the Springfield Thunderbirds. The annual support from this organization for our Pink in the Rink celebration surpassed my expectations – the "front office" team is so gracious and enthusiastic when it comes to supporting Rays of Hope and we are so grateful to them!

I am completely over the moon that we will all be able to gather again in October to laugh, cry and hug. Really though, if we make eye contact, I'm going to hug you. And if you find yourself not able to gather in October for one reason or another, there are still opportunities to raise money from afar! You can host a smaller walk with your closest friends and family; ask your kid's sports organizations if they'd be willing to host some sort of competition where donations would go to ROH – all you need to do is ask!

Remember what it's all for – you are walking (or running, or kicking, or "cheers"ing, or doing goat yoga) for those that won the battle, those that are still fighting the battle, those who lost the battle but are honored every day, and the 1 in 8 women and 1 in 100 men who will be diagnosed this year. Every dollar matters and one day all these dollars will be part of the cure!



With hope and love –
Lindsey Bubar



Lindsey Bubar

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Iron Duke Brewing Celebrates Breast Cancer Warriors through Mother's Day Event

Iron Duke Brewing Owner Nicholas Morin and General Manager Franchesca Pafumi joined with Rays of Hope 2022/23 Chair Lindsey Bubar to create a Mother's Day event that supported Rays of Hope in May 2022. Nicholas and Franchesca shared what inspired them to host this event at the Ludlow brewery.

Why did you decide to hold an event to support Rays of Hope?

Lindsey is a great friend to the Iron Duke Brewing family. We were behind Lindsey every step of the way of her breast cancer battle. When she was nominated to chair the event, we were absolutely thrilled for her and wanted to find a way to not only celebrate her, but also support the cause! Mother's Day was around the corner and the two aligned well, as both mothers and breast cancer warriors share many of the same characteristics: resilience, strength, and just a whole lot of faith! Iron Duke Brewing wanted to design an event that welcomed families and friends to celebrate both ideas!

In what ways did your event benefit Rays of Hope?

Our event benefited Rays of Hope in many ways. Not only were we able to raise a high monetary donation but were also able to use our platform to spread awareness in the community while encouraging faith amongst those currently facing breast cancer.

What does giving back to the community mean to you?

Giving back to the community is the easiest thing Iron Duke Brewing can do! We have been humbled with outpouring love and support from our local community since the start of



Lindsey Bubar and Franchesca Pafumi enjoyed time with Springfield Thunderbirds' Boomer during the event

our own journey and we pride ourselves on finding ways to give back. Throughout the year, we hold many events and opportunities to bring the community together to raise awareness and support for different causes. Our Mother's Day celebration in support of Rays of Hope will be many of the things we continue to do to give back.

What other businesses joined in to support your event?

We were incredibly thankful for each and every one of the businesses that joined our celebration! We were truly blown away by the generosity of all these businesses, including Dazzle Day Face Painters, Maureen's Sweets from East Longmeadow, Wilbraham Flower Shop, Balloons Around Town, Kettle Corn from Dave Pandolfi, Bax from Rock 102, Athleta, the Springfield Thunderbirds, and Papaya Pilates. The day would not have been a success without them!

How did you feel about seeing the support you received from participants?

Our team worked very hard organizing and facilitating the day. Watching it all successfully come together was extremely rewarding! The whole day was full of hope, positive energy, and a lot of love.

How much did you raise?

There is no tool to measure how much hope and support we were able to raise, however, we know it was a lot! In monetary donations, we were able to raise more than \$3,000!

Anything else you'd like to add?

Thank you to Baystate Health Foundation's Rays of Hope for allowing us to hold this incredible event in its honor. We are looking forward to doing it again next year!



If you are interested in holding an event to support Rays of Hope please visit the How to Help page on our website at [Baystatehealth.org/Raysofhope](https://www.baystatehealth.org/Raysofhope) or call 413-794-8001.

Research Update

Grace Makari-Judson, MD
*Interim Medical Director, Cancer Services,
Baystate Health*

*Chair, Baystate Health Breast Network
Co-director, Rays of Hope Center for
Breast Cancer Research*

Dr. Prarthna Bhardwaj
*Hematology Oncology Fellow,
UMass Chan Medical School - Baystate*

We are pleased to share with you results of Baystate Health's research supported by Rays of Hope.

Weight Change and Breast Cancer Diagnosis

An area of research interest to our group has been weight change and breast cancer diagnosis. Weight gain and insulin resistance (a condition where body cells do not respond to insulin leading to disorders of blood sugar) may be associated with a poorer prognosis. Several years ago, we initiated a prospective study of 100 women with newly diagnosed breast cancer whom we followed for two years. Weight, BMI, waist-hip ratio, and measures of body metabolism (insulin, fasting glucose, triglycerides) were obtained every six months over the course of the study. The unique aspect of this research was the longitudinal assessment of these variables over two years with diet and exercise data included.

The study confirmed prior work published by our group, namely that women gain weight over the first year after treatment, then the weight gain levels off at two years. Weight gain occurs despite exercise, however, those who exercise gained less and had other benefits. Women who received chemotherapy gained the most weight—average gain 1.98 lbs at 12 months, which persisted at 24 months.

This small but significant weight gain in the year following diagnosis was not the result of increased caloric intake or inactivity. Those getting chemo had short-term metabolic impairments suggestive of insulin resistance. Chemotherapy-induced insulin resistance peaked six months after diagnosis and completely reverted to baseline levels by the subsequent year. This work has implications for future studies of the mechanisms that underlie weight change and cardiometabolic health for breast cancer survivors.

Identifying Recurrences of Breast Cancer

During COVID, when telehealth visits were done for the first time for breast cancer patients, we undertook a study



Grace Makari-Judson, MD



Dr. Prarthna Bhardwaj

to assess how recurrences were identified. This was led by one of our former oncology fellows, Soe Tun, as his research project and culminated in publication.

The study looked at patients diagnosed with early stage breast cancer, which included ductal carcinoma in situ (DCIS), also known as Stage 0, or invasive breast cancer, which was Stage I or II, diagnosed and treated at Baystate Regional Cancer Program. The study included patients diagnosed between the years of 2010 and 2015 for whom we had at least five years of follow-up. Second events were defined as a new cancer in the same breast, a new cancer in the opposite breast, a recurrence in the chest wall (after mastectomy), or distant metastatic disease.

The first important finding was the low risk of recurrence, with only 2.8 percent of these early stage breast cancer patients experiencing a recurrence during the five years of follow-up.

Mammography was the mode of detection for both recurrences in the same breast and new breast cancers. Provider clinical exam was the most important mode of detection of recurrence in woman after mastectomy. Patient symptoms prompted evaluation for distant disease. Given modern enhancements to imaging and better treatment leading to lower recurrence rates, this study provides new insights to survivorship care.

Multidisciplinary Team Approach Provides Better Outcomes for Patients

Finally, a project that has contributed to quality improvement was accepted as a poster in June 2022 by the American Society of Clinical Oncology. The manuscript is being prepared to submit for publication. This work was led by oncology fellow, Prarthna Bhardwaj, MD, who is planning to specialize in breast cancer.

Administration of pre-operative chemotherapy is one of the most sophisticated approaches to breast cancer care and requires significant coordination amongst all the breast cancer specialties. Why consider this approach? There are some patients who cannot have surgery first due to advanced disease. Others may be able to have upfront surgery but giving chemotherapy first may allow for a lesser surgery, such as a lumpectomy instead

of a mastectomy. Equally important, giving chemotherapy upfront allows us to assess the efficacy of our treatment, gain a better sense of prognosis and tailor the treatments that should be administered after surgery. This approach is especially important for breast cancers described as triple negative (ER, PR and HER2neu negative) or cancers that are HER2neu positive.

To start, patients need to be identified by the breast surgeon as potentially benefiting from this approach. They are referred to Medical Oncology to assess the patient and recommend the specific combination of drugs and the treatment plan. The patient is also referred to Radiation Oncology. The patient is assessed for possible enrollment to clinical trials. Key in the process is referring the patient back to breast surgery in a timely fashion to allow for pre-surgical planning. Delay in surgery or radiation after treatment can be linked to worse outcomes.

Our study showed that 25 percent of patients who underwent chemotherapy prior to surgery had no evidence of cancer at the time of surgery. Of these, the majority had triple negative cancer or HER2neu positive cancer. Most (91 percent) had down-staging of tumor resulting in less extensive surgery. All patients were referred back to the surgeon in a timely fashion prior to surgery. The average time from completion of chemotherapy to surgery was four weeks and time from surgery to radiation therapy was eight weeks—both of which are consistent with the recommended national standard. This study shows the effective functioning of a multidisciplinary team involving breast surgeons, radiation oncologists and medical oncologists at the D'Amour Center for Cancer Care.



Dr. Cho at Rays of Hope in 2021

From the Future of Breast Cancer Care

By Ruth Cho, MD

Breast Surgery Fellow, Baystate Medical Center

Breast Surgery Fellow Ruth Cho, MD, shares her experience providing care to the community through her work at Baystate Medical Center.

As my training at Baystate Medical Center comes to a close, I am reminded of the many reasons why I chose this field. The field of breast surgery is truly unique, and I really value the relationships I developed with the patients and their families. I also enjoy working with the team members from different specialties to personalize the treatment and care for each patient.

My one-year fellowship at Baystate has been a special experience because I had the opportunity to work closely with different doctors, nurses, nurse practitioners, medical assistants, patient service representatives, and physical therapists. This has helped me to get a thorough understanding of the patient experience, which has allowed me to better understand their journey.

There are many rewarding aspects in the field of breast surgery but developing a close relationship with the patient has been the most rewarding part of my fellowship. Being involved in their care with a group of dedicated individuals is such a gift.

It has been wonderful to see the encouragement for breast cancer research and education from the community and my program has also supported my interest in community outreach. I was fortunate to have had the opportunity to volunteer at different events, such as the Rays of Hope Walk & Run Toward the Cure of Breast Cancer, webinars at the Cancer House of Hope and the Calvary Baptist Church, the Springfield Pride Parade, and the Cancer House of Hope Chain Ride. Connecting with patients outside of the office has given me a humbling perspective on the support and enthusiasm the community has for one another.

The Baystate breast fellowship program has given me many tools to be a clinician while encouraging and supporting my involvement within the community. I am grateful to everyone at Baystate for welcoming me and for the incredible education I have received. As graduation approaches, I feel prepared and excited to continue my journey as a breast surgeon.

A promotional graphic for Rays of Hope. It features a woman in a pink shirt and a grey cap, smiling and holding a small pink shirt that says "BREAST CANCER WARRIOR We Women will Run for Them All". The background is pink with a sunburst graphic at the bottom right. Text on the left includes "YOUR SUPPORT CAN HELP....", "Bring out her inner Warrior", and "Rays of Hope supports vital breast cancer research along with programs and services that can help people like Paulette become fierce and strong." A yellow button at the bottom left says "Join Us Today!".

YOUR SUPPORT CAN HELP....

Bring out her inner Warrior

Rays of Hope supports vital breast cancer research along with programs and services that can help people like Paulette become fierce and strong.

Join Us Today!

Your Breast Imaging Questions Answered

Jennifer Hadro, MD, Radiologist

Baystate Breast and Wellness Center (BBWC) – the name speaks for itself. At our flagship location at 100 Wason Avenue in Springfield, our focus is providing high-quality breast imaging care for our patients who come to our facility for screening and diagnostic mammography, and procedures including ultrasound-guided and tomosynthesis-guided biopsies. Many patients may not realize that the same breast imaging team provides most or all these services at our additional breast imaging sites in the region, including our locations in Longmeadow, Northampton, South Hadley, Westfield, Greenfield, and Ware, Massachusetts; and Enfield, Connecticut.

Below are some FAQs that give more insight on what we offer through our imaging services.

Who will perform my mammogram and ultrasound?

Our mammography and ultrasound technologists have undergone specialized training and are certified by the American College of Radiology to perform mammography and breast ultrasound. Most of our technologists rotate through our many locations, so you may see the same technologist at BBWC and our satellite Baystate Radiology & Imaging sites.

Who will read my screening mammogram?

Your mammogram will be read by a board-certified radiologist (doctor) who meets the special qualifications established by the FDA and American College of Radiology to interpret mammograms. No matter where your screening mammogram is performed, it will be read by a specially trained breast imaging radiologist.

Who will read my diagnostic mammogram and/or ultrasound?

Diagnostic imaging is performed when a patient is called back from screening for additional imaging, has a symptom such as a lump, or is being followed for a finding. A radiology physician will be physically present to interpret these exams while the patient is in the department. The radiologist will be able to provide immediate feedback to the patient regarding the findings and any further recommendations. Like the technologists, our same pool of certified radiologists rotate through the BBWC and other outpatient facilities. A radiologist will be on site at all of our facilities where diagnostic imaging is performed.

Does it matter where I have my biopsy?

Depending on the type of biopsy recommended, a patient may be offered a biopsy appointment at any one of our biopsy capable outpatient facilities, as we try to schedule biopsies as soon as possible to minimize wait times and

patient anxiety. We have a group of experienced interventional breast radiologists who perform biopsies at BBWC, Baystate Franklin Medical Center, Baystate Noble Hospital, and the Baystate Radiology and Imaging sites in Northampton, MA, and Enfield, CT. We have standardized protocols for biopsy procedures that are used at all these sites. In addition, all biopsy samples are processed and reported by a team of Baystate pathologists who are specially trained in breast pathology. Therefore, the same high standard of care will be provided at all the biopsy facilities.



Dr. Jennifer Hadro

Is the imaging equipment better at one place?

We have the same mammography units at all our facilities, all of which perform 3D mammography. This equipment undergoes frequent quality testing, as mandated by the FDA. Our ultrasound units are state-of-the-art, as well. Depending on the biopsy recommendation, a patient may be required to go to the facility that offers that particular type of biopsy, but again, the equipment at each facility undergoes the same rigorous quality assurance testing.

Patients should feel confident that they will receive excellent care, whether they are visiting the Baystate Breast and Wellness Center or another of our outpatient facilities. Using standardized protocols, and with our team of specially trained technologists and radiologists, our goal is to provide the same high quality breast imaging services throughout the Baystate Health system.

YOUR SUPPORT CAN PROVIDE....

More time with Family

Rays of Hope supports vital breast cancer research along with programs and services that can help people like Randi spend more time with family.

Start Fundraising Today!

Baystate's Family Cancer Risk Program Provides Insight for Patients and Families

By Arielle Majka, Genetic Counselor, and
Alexandra Richards, Genetic Counselor

Genetic testing has evolved to become an integral part of cancer care. The results of this testing can guide treatment and medical decisions. While genetic testing can be valuable for those who have received a cancer diagnosis, it also has an important role in helping people unaffected by cancer to better understand their risk for developing cancer over their lifetime.

Family history is valuable when deciding what type of genetic testing is appropriate, as genetic testing is not one size fits all. Providing an up-to-date family history can help your genetic counselor or physician determine what genetic testing would be most beneficial for you.

A decade ago, genetic testing for breast cancer predisposition was limited to only a few genes (typically BRCA1 and BRCA2), but today we know of numerous genes that have a role in breast cancer risk, and the risk to develop other types of cancers, as well. We know that there can be links between genes associated with hereditary breast cancer syndromes and other types of cancer, like pancreatic and ovarian cancers.

Today's options for genetic testing look much different than they did 10 years ago, and people who had previous genetic testing may benefit from updated testing. Current genetic testing often includes broad multi-gene panels, helping us to better identify individuals who may have an increased risk for cancer. Options for cancer screening and prevention have also improved over time. Most recently, Baystate Health has implemented a pancreatic cancer screening program for individuals at high risk to develop this type of cancer.

If you have a personal or family history of cancer, ask your primary care provider about the possibility of genetic testing. Baystate's Family Cancer Risk Program consists of a multi-disciplinary team of providers who can help guide a patient through the process of genetic testing and provide follow up care.



"Since I've gotten my estate plans in order, I'm liberated thinking about it. I feel so good about this legacy gift. I am excited to be able to contribute to the greater good. It's all about the greater good."

- Donna Feng, Blood Donor & Legacy Society Member

Want to be part of something **LARGER** than YOURSELF?

Join with others in the community to create a legacy gift to support the future of Rays of Hope, or another area of Baystate Health.

By creating a gift in your will, trust, or through a beneficiary designation, you, too, can make a joyful difference.

WE'RE HERE TO HELP!

For a FREE Will Guide or to explore ideas, reach out to Kylie Johnson at 413-794-7789 or Kylie.Johnson@BaystateHealth.org.

All inquiries are confidential.

PlanMyGift.BaystateHealth.org

Did you know:

**that Rays of Hope
Corporate Sponsorships
are tax deductible?**

For more information on how to become a Rays of Hope corporate sponsor, visit BaystateHealth.org/RaysofHope or call **413-794-8001**.

Community Pink Partner Spotlight:

CHD Cancer House of Hope

CHD Cancer House of Hope Program Director Margaret Toomey shares how a grant from Rays of Hope impacts the program and support offerings of she and her team.

What services does CHD Cancer House of Hope provide?

CHD Cancer House of Hope is committed to providing free access to therapies and wellness programs that bring strength and resilience, support and hope to those that have been diagnosed with cancer. We offer a variety of programs to meet the many diverse needs of our members who span Hampden, Hampshire, Berkshire and Franklin Counties, as well as Connecticut, Florida, and Pennsylvania.

Cancer House of Hope offers oncology massage, Reiki, hypnosis, virtual yoga, chair yoga, a wig boutique, bra and breast prosthesis, all cancer support group, breast cancer support group, therapeutic horseback riding, art therapy, knitting, and wellness outdoor activities.

How have you adapted your services during the past few years due to the pandemic?

When COVID required some organizations to shut down, we knew that could not happen here at Cancer House of Hope. Our members looked forward to our programs, and we were determined to see these programs continue in some form, to keep our members connected and to provide reassurance that we were still here for them.

CHD Cancer House of Hope was very fortunate to be able to use the technology available and set up 90 percent of programs through the use of Zoom and Teams meetings. Virtually, we offered educational lectures, cooking, support groups, hypnosis, yoga, drive-by wig boutique services, art therapy, and knitting. Crisis counseling was offered over the phone, and outdoor activities were offered while practicing social distancing.

Upon reopening, COVID regulations were strictly followed to allow members to receive in-person treatment. Every program was assigned a day to offer services, which helped to limit the number of people in the house at one time. We continue with that schedule today.

Have you created new programs?

The Wellness Outdoor Activities program was established so people could safely meet outside and have that human contact that everyone needed after being isolated for such a long period of time. Activities such as walking, hiking, kayaking were added so that members could meet to socially interact and exercise. Many expressed they felt self-isolated, and these activities helped them with their mental health.



The CHD Cancer House of Hope

Cancer House of Hope just beautified its pond area for those to come and to sit on a bench, listen to the water flow over brownstone and take in the beautiful flowers. It's a wonderful place to sit and reflect.

How do your programs impact those touched by cancer?

"You have cancer." These devastating words are followed by silence as reality sinks in, but this silence envelopes one word that becomes every cancer patient's life line, "HOPE." It is all the cancer patient is left with when all is said and done. While a single person receives this diagnosis, a whole cadre of people reach out to support them. No one fights alone. This is the mission and reason for the CHD Cancer House of Hope in West Springfield. This "house" offers a non-clinical respite. Our diverse selection of programs helps those touched by cancer navigate through their journey. Through our programs, they find strength, spiritual support, emotional support, physical support and hope.

Each one of our programs impacts an individual in a different way. For some, massage improves quality of life, reduces anxiety, reduces pain, and offers comfort through the nurture and support of our therapists. Reiki is a complementary and energy healing therapy that relaxes, reduces stress, calms breathing, and improves overall well-being.

Support groups offer reassurance, encouragement, coping skills, finding new ways to live a healthy lifestyle, and opportunities to share with others who are going through similar experiences.

Outdoor activities, such as walking, hiking or horseback riding, bring a sense of normalcy to people's daily lives while keeping them moving, promoting emotional growth and learning, and influencing neuromuscular changes.

Yoga helps heal the body, mind and spirit. Hypnosis may help an individual relax, reduce stress and cope with symptoms

and treatments. Relaxation techniques and mindfulness practices help an individual calm the mind, reduce stress and find inner peace.

Receiving a wig gives identity! Cancer House of Hope offers a room filled with 75 wigs beautifully displayed, head coverings and many other accessories that one would need while experiencing hair interruption due to treatments. Our boutique is staffed by two professional volunteers who offer fittings weekly on Mondays and Tuesdays. All fittings take about 60 minutes and require an appointment. Often, members experiencing hair interruption arrive at Cancer House of Hope sad and depressed but leave with a smile on their face once they have their identity back.

Our bra fitting and breast prosthesis program is staffed by a professional fitter who volunteers her time to give members a new lease of feeling good about themselves. They look in the mirror and often say, "That's me; I feel whole again."

CHD Cancer House of Hope offers all programs, except Therapeutic Riding, under one roof in a home-like setting. Coming to a "house" is less taxing than going for services in a clinical setting.

As a community partner with Rays of Hope, how has its grant funding helped?

The community partnership we have with Rays of Hope affords Cancer House of Hope the ability to offer Reiki, massage, breast cancer support groups, yoga, and relaxation to survivors. All of these programs, supported by the Rays of Hope grant, bring "HOPE" to those on their cancer journey.

Anything else you would like to mention?

Our team of volunteers and members look forward, as always, to walking in the Rays of Hope Walk & Run Toward the Cure of Breast Cancer this year. Here at the Cancer House of Hope, our 15 volunteers feel that their calling is right in our name – providing "HOPE." We share in the battles of those who come to us and want them to know that no one fights their battle alone.

To learn more about the Cancer House of Hope, visit CHD.org/cancerhouseofhope or call 413-733-1858.

Surgery Update:

New Procedure Lowers Risk of Lymphedema

Dr. Holly Mason
Section Chief, Breast Surgery
***UMass Chan Medical School-
Baystate Associate Professor
of Surgery***



Dr. Holly Mason

***Director, UMass Chan Medical School-Baystate
Breast Oncology Fellowship***

In a continued effort to provide specialized breast surgical care to the Pioneer Valley, the Baystate Health breast surgery team now offers a procedure called target axillary dissection. The standard surgical treatment for women with breast cancer that has spread to their axillary lymph nodes has been the axillary node dissection. This involves the removal of 10-20 lymph nodes from the armpit area to see if the cancer has spread beyond the breast itself. The problem with an axillary node dissection is the long-term risks. The procedure often causes long-term swelling of the arm, which is called lymphedema, as well as numbness and loss of range of motion. The risk of lymphedema for such an axillary node dissection can be 15-20 percent or greater.

Axillary node dissection is not always required for patients. Breast cancer in patients with larger tumors or positive nodes is treated using medical therapy, whether chemotherapy or anti-hormone/endocrine therapy, which can be given before surgery. Recent research shows that in women who present with a positive lymph node, medical therapy can be given in hopes of destroying all the cancer in that lymph node, converting it from "positive" to "negative." This process of conversion is known as down-staging. Thus, at the time of surgery, the previously biopsied positive node is removed with multiple other surrounding sentinel nodes. The sentinel nodes are the first lymph nodes in the path of fluid drainage from the breast. The lymph nodes are examined by the pathologist during the surgery, and if no cancer remains in those nodes at the time and no additional cancer is found in the sentinel nodes, surgical treatment of the lymph nodes is complete and axillary node dissection can be avoided.

The ability to safely avoid an axillary node dissection in many patients allows for lower risk of lymphedema and subsequently a higher quality of life long-term but still adequately treats the cancer. We have come a long way from the days when all patients with breast cancer had all axillary lymph nodes removed with very high rates of debilitating lymphedema. The theme of de-escalation of care, which has been discussed previously in this newsletter, continues as we try to individualize treatment for each patient, optimizing survival from breast cancer while minimizing the impact of our treatments.

Inside Look

Artist Jay Frostt

Born and raised in western Massachusetts, Jay Frostt lent his incredible talents to Rays of Hope in 2018, creating the “Wings of Hope.” Currently residing in New Orleans, Jay shared some insight on what has inspired his work and shares a special message for survivors.

How did you get your start as an artist and painting?

Painting and drawing for me started very young. I remember one of my cousins drawing Spider-Man and it changed my little 5-year-old life. Since then, I can remember wanting to become an artist more than anything else. People always told me I was talented, but I didn't take it seriously until college. I graduated from Westfield State University where I studied art and was lucky enough to meet Imo Imeh, who really challenged me and shifted my mindset entirely. Since graduating I've moved to New Orleans, LA, and I'm working at Hidden Dimension Studio with another big art influence of mine, Michael Bogel. Changing “reality,” creating every day and trying to challenge those around me, for the good or the bad, has always been the passion that pushes my art career. Art is a journey, just like life, with many obstacles and fights, coming out on top has always been the expectation.

What inspired your vision for the Rays of Hope Wings?

Not only for the Rays of Hope wings, but also for my first art series “Don't Forget to Smile,” the vision has always been about overcoming, pushing barriers, and shaping our lives—our realities—to be what we want, and what we deserve. In my work, each layer presents itself with a new challenge until the art is done. Through these layers things can get muddy, lost, completely destroyed, but the beauty is what comes out on the other side. **Just like life, when we all are inevitably faced with difficulties on all scales, our only option is to continue pushing – don't stop fighting.** I put



Lucy Giuggio Carvalho and Denise Jordan pose in front of Jay Frostt's Wings of Hope canvas.

that emotion into each piece. Create your story, go on your journey, win your race, find your peace at its end. That's the inspiration.

How long does a piece take you?

For my “Don't Forget to Smile” projects, each canvas averaged 30-40 hours per canvas. The Rays of Hope wings I made during my time at Westfield State University and that took about 20-25 hours of work on each canvas.

What message would you like to share with survivors?

Don't stop believing. Life isn't easy for anyone, and the weight of challenges does not hold the same for each individual, but each day presents the opportunity for you to create your story. All we can do is wake up and put our best foot forward. Each day we can get 1 percent better, each day we can get 1 percent stronger, and before you even know you'll be flying. Fight with everything in you, your story is on the other side.

 You can follow Jay Frostt's story on Instagram at [@jayfrosttx](https://www.instagram.com/jayfrosttx).



CREATE YOUR **PINK** MOMENT:

TAKE YOUR PHOTO
with a replication of Jay's Wings of Hope
at the **2022 Rays of Hope Walk & Run**
Toward the Cure of Breast Cancer.

DON'T FORGET TO TAG US

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and spread the word by using **#ROHWingsofHope22**

Immortality: Probing the Roots of Cancer

By D. Joseph Jerry, PhD

*Science Director of the Pioneer Valley Life Sciences Institute
Co-Director of the Rays of Hope Center for Breast Cancer Research*

Most people confronted with the diagnosis of a disease wonder, “When did it begin? What caused it? Could it be prevented?” As breast cancer researchers, we struggle with these same questions asking, “What is the initiating event? Can we detect changes in cells before they become dangerous, and can the trajectory of these cells be altered to prevent cancers from forming?”

The Seven Deadly Sins of Cancer

Normal cells need to grow to replace cells that die. This constant death and renewal of cells is a critical balance, and the precision of these processes is remarkable! We live decades with the processes shaping our lives and adjusting to varied demands. Growth is favored in childhood and when wounds are healing, but cells can remain dormant carrying out their normal functions within us for long periods without dividing. This allows a dynamic equilibrium across the decades of our lives.

Like good neighbors, cells normally grow and respect “property lines” that exist within our tissues. In contrast, cancer cells acquire alterations that ignore these boundaries and push into neighboring parts of a tissue. To accomplish this, a cancer cell must acquire a variety of abilities—the “seven deadly sins” of cancer. These include 1) the ability to replicate even when growth signals are absent, 2) a failure to stop growth at tissue boundaries, 3) evasion of death signals, 4) alterations in metabolism relying more on the sugar in blood (glucose) to survive even when blood supplies are limiting, 5) recruitment of a blood supply to nourish and expand the cancer, 6) allowing spread to new locations, and 7) an unlimited lifespan or “immortality.” The most fundamental change is “immortality” because longer life allows cells to slowly acquire the alterations necessary to grow and invade other tissues.

The Path to Immortality

Cells that make up most of our tissues have an “expiration date.” They grow and make a new copy of their DNA, but each cell only divides about 30 times. This limit is determined by the ends of our chromosomes, which are eroded by the waves of each cycle of cell division until the ends lose their protective shield (telomeres). This sets off signals causing cells to enter replicative senescence, which means the cells stop dividing. This does not occur synchronously in all cells, but a few at a time. As more and more cells enter senescence, signs of aging become visible. While aging is not always welcome, cellular senescence provides an important barrier preventing cancer. If a cell acquires a mutation that activates an oncogene (genes stimulating proliferation), the cell will begin to divide but chromosomes continue to erode. Once the chromosomes become

perilously shortened, the precancerous cells (cells that have increased potential to cause cancer), enter senescence and are destined to die over time. But we notice that aging varies considerably among each of us. So, might the requirements for “cellular immortality” also vary among individuals?

The Breast Cell Repository is Providing Answers

Thanks to participants in the Rays of Hope Breast Research Registry, there is now a library of cells from diverse individuals. The Breast Cell Repository at the Rays of Hope Center for Breast Cancer Research makes it possible to test the requirements of cells to be immortalized by different treatments.

Discovered in 1987 by Elizabeth Blackburn and Carol Greider, telomerase is enzyme found in stem cells that allows them to repair their telomeres but is not expressed in other cell types such as breast cells. However, telomerase is reactivated in many breast cancers. Therefore, we have turned on expression of telomerase in normal breast cells to see if it was sufficient to immortalize them. The result was that cells from about 90 percent donors still underwent replicative senescence even when telomerase was provided. For this majority of individuals, immortalization required additional tumor suppressor genes to be disrupted. These results are mapping the path to this first step in the development in cancers.

But what does this mean for the 10 percent of individuals that exhibited lower barriers and were immortalized with telomerase alone? Could this be a biomarker of increased risk of developing breast cancer? It will require tests of cells from many more individuals to determine if this feature is associated with future cancer risk. But we are fortunate as more than 250 donors have contributed to the Breast Cell Repository, which will allow us to determine if immortality may be a leading indicator. The work may also allow us to identify additional barriers that may be able to prevent tumors even when telomerase is reactivated. These can provide new targets for preventive treatments. This work is possible due to the generosity of those donating funds and tissues to the Rays of Hope Center for Breast Cancer Research and the support of the Pioneer Valley Life Sciences Institute.

**ROH Funds:
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RAYS OF HOPE Sunday, October 23, 2022

Run Toward the Cure 8K:
Springfield – Forest Park
(starts at Temple Beth El)
Run Starts: 8:30 am

Walk Toward the Cure:
Springfield – Forest Park
(starts at Temple Beth El)

Registration: 9 am
Survivors' Photo: 10 am
Program: 10:15 am
Walk Starts: 10:30 am

More details, including parking directions, fundraising ideas, a team captain guide, school and business participation, and sponsorship opportunities are available at BaystateHealth.org/RaysOfHope.

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