CANCER SUPPORT
COMMUNITY
COMMUNITY IS STRONGER THAN CANCER

CANCER CACHEXIA
Voice of the Patient Report

EXTERNALLY-LED PATIENT FOCUSED
DRUG DEVELOPMENT MEETING
NOVEMBER 2, 2021

This document represents the summary report written by the Cancer Support Community (CSC) stemming from an Externally-Led Patient-Focused Drug Development meeting on cancer cachexia held virtually on November 2, 2021. This report reflects the host organization's account of the perspectives of patients and caregivers who participated in the public meeting and provided input in the 30-day period following the meeting.

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SUBMISSION

This report is submitted as patient experience data for consideration pursuant to section 569C of the Federal Food, Drug and Cosmetic Act to:

- *Center for Drug Evaluation and Research (CDER)*
- *Center for Biologics Evaluation and Research (CBER)*
- *U.S. Food and Drug Administration (FDA)*

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DISCLOSURES

James Valentine, JD, MHS and Larry Bauer, RN, MS are employed by Hyman, Phelps & McNamara, P.C., a law firm that represents sponsors who are developing drugs as well as patient advocacy organizations, including CSC. Wendy K.D. Selig, MSJ, receives consulting revenues from a variety of oncology patient advocacy organizations (including CSC) and for-profit companies through her firm, WSCollaborative.

FUNDING RECEIVED

Sponsorship of the meeting was provided by CSC, Pfizer, Roche Diagnostics, and AVEO Oncology. These funds were used to support logistical and consulting services for the initiative. CSC explicitly states that the non-CSC sponsors were not involved in the planning of the meeting or related activities.

STATEMENT OF USE

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VERSION DATE: September 7, 2022

REVISION STATEMENT

This document has not been revised and/or modified after the version date listed above.

POINT OF CONTACT

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*No longer an employee of CSC

A Message **of Thanks**

On November 2, 2021, individuals who have experienced cancer cachexia, and their caregivers, met virtually to discuss this complex, often misunderstood, and frequently undiagnosed condition that can have a significant impact on the health and lives of people affected. The Externally-Led Patient-Focused Drug Development (EL-PFDD) meeting hosted by the Cancer Support Community (CSC) provided an opportunity for people impacted by the unintentional weight loss, muscle wasting, weakness, fatigue, and intense psychosocial impact of cancer cachexia to come together and describe their experiences.

CSC is the largest professionally led nonprofit network of cancer support worldwide. We are dedicated to ensuring that all people impacted by cancer are empowered by knowledge, strengthened by action, and sustained by community. We are focused on the psychosocial well-being of patients and their caregivers looking beyond physical symptoms to what affects the cancer community mentally, emotionally, socially, financially, and logistically. Addressing issues that affect people with all types of cancer is a central aspect of our relentless focus on helping people manage their disease and get back to the lives they want to lead.

> We are so grateful to the many courageous patients and caregivers who came forward to tell their stories, share their experiences, and provide their insights about how we can collectively do better to understand, manage, and treat cancer cachexia.

Given our mission, we were eager to address cancer cachexia in an EL-PFDD meeting to better incorporate patients' perspectives on a condition that can be extremely disruptive to the individuals impacted by it. Although cachexia often accompanies a cancer diagnosis, it is regularly overlooked and/or underdiagnosed, resulting in undertreatment that leads to numerous challenges for patients and caregivers.

We are so grateful to the many courageous patients and caregivers who came forward to tell their stories, share their experiences, and provide their insights about how we can collectively do better to understand, manage, and treat cancer cachexia.

We thank the many U.S. Food and Drug Administration (FDA) leaders and staff who worked with us for months to plan and execute the EL-PFDD meeting. We especially appreciate Theresa Kehoe, MD, Director of the Division of General Endocrinology at FDA, for providing opening remarks, and Shannon Sparklin, Operations Research Analyst, Patient-Focused Drug Development Program Staff at FDA, for her support leading up to the meeting. Additionally, we greatly appreciate the expert comments provided by Jose Garcia, MD, PhD, University of Washington/VA Health System, who provided a clinical overview of cachexia for the meeting.

James Valentine, JD, and Larry J. Bauer, RN, MA of Hyman Phelps & McNamara were instrumental in the planning and execution of this meeting, with James joining our then-President Elizabeth Franklin as co-moderator and Larry providing expert strategic support and summary comments. Logistics for the virtual meeting were seamlessly coordinated by John Dudley and his team at Dudley Digital. Strategic support for the meeting and expert writing of this report was provided by Wendy K.D. Selig of WSCollaborative. We appreciate Pfizer, Roche Diagnostics, and AVEO Oncology for providing financial support.

Phylicia L. Woods*, JD, MSW, Kim M. Czubaruk*, JD, and Rachel Solomon* of CSC executed this project with the tremendous commitment and professionalism our staff is known for, guiding its development from initial concept through implementation. Our friends at the Cholangiocarcinoma Foundation (CCF), LUNGevity Foundation (LUNGevity), the Pancreatic Cancer Action Network (PanCAN), and AnCan provided in-kind support and outreach to help engage patients and caregivers.

Cancer patients and their caregivers struggling with cancer cachexia often feel alone and confused by their experience with its resulting unintended weight loss and other debilitating effects. There continues to be a tremendous unmet medical need for people living with cachexia. As one of our panelists shared ahead of the meeting, "cancer cachexia made life as I knew it unrecognizable." Coming together in a public forum to describe the impact of cancer cachexia created a shared sense of community and purpose, which we hope will inspire all relevant stakeholders to better recognize, understand, and treat the condition. We also hope that patient perspectives from this meeting will be used to help drug developers seeking to develop new and better treatments for cachexia.

CSC remains committed to partnering with patients and caregivers to ensure their perspectives and experiences are meaningfully included in addressing diseases and treatments that impact their lives.

Sincerely,

Debbie Weir

Debbie Weir
Chief Executive Officer, Cancer Support Community

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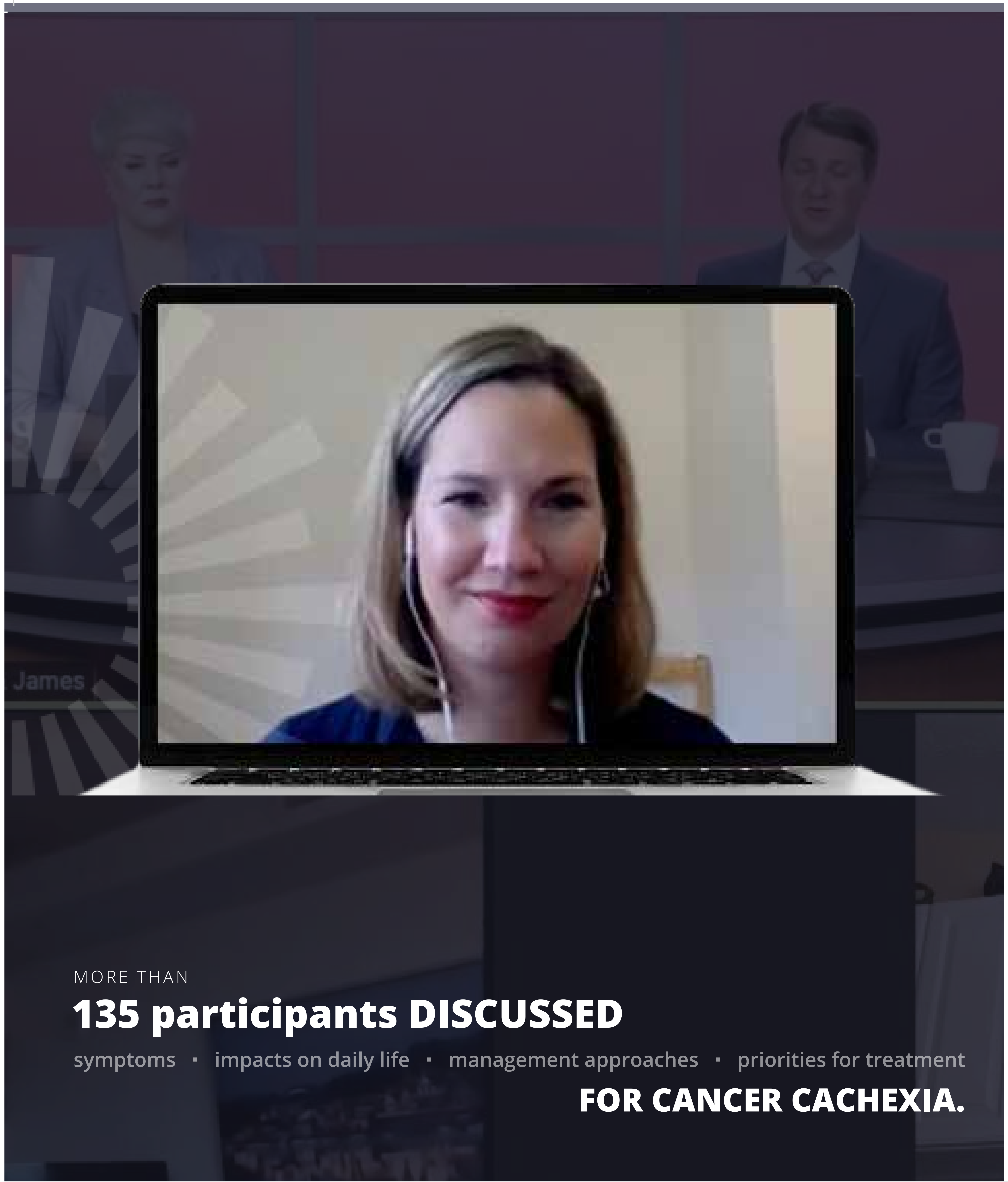
*No longer an employee of CSC



MORE THAN

135 participants DISCUSSED

symptoms · impacts on daily life · management approaches · priorities for treatment

FOR CANCER CACHEXIA.

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EXECUTIVE SUMMARY

While it is estimated that half of all patients[1] with cancer may eventually develop cachexia, this debilitating condition characterized by drastic, unintentional weight loss and muscle wasting remains an area of significant unmet medical need. To bring to light the experiences and concerns of people living with cancer cachexia and their caregivers, the Cancer Support Community (CSC) hosted a virtual Externally-Led Patient-Focused Drug Development (EL-PFDD) meeting on November 2, 2021. During this meeting, patients and caregivers discussed the symptoms, impacts on daily life, management approaches, and priorities for treatment for cancer cachexia. There were over 135 attendees at this meeting including the patients, caregivers, staff from the FDA, industry representatives, and scientists.

The meeting began with a presentation from Dr. Theresa Kehoe, Director of FDA's Division of General Endocrinology within the Center for Drug Evaluation and Research (CDER), in which she described the Agency's interest in developing clinical outcome measures that are meaningful to patients with cancer cachexia to support development of effective therapies. Dr. Jose Garcia of the University of Washington presented a clinical overview of cancer cachexia, defining the condition and describing gaps in current knowledge and tools that hinder clinicians' ability to treat patients.

The bulk of the meeting centered around moderated panel and group discussions with people living with cancer cachexia and their caregivers. The first of these two sessions focused on the health effects and daily impacts of cachexia and the second focused on patient and caregiver perspectives on cancer cachexia treatments. A total of 10 panelists (seven patients and three caregivers) prepared and presented pre-recorded five-minute testimonials about their experiences, and an additional 9 individuals (four patients and five caregivers) served as live Zoom panelists to lead off the group discussion segments. Additional speakers participated by calling into the livestream and sending in written comments that were read or summarized by Dr. Elizabeth Franklin, CSC's then-president and co-moderator of the meeting with James Valentine of Hyman, Phelps & McNamara, the meeting moderator.

Over the course of the first session, participants identified many problems related to eating, poor appetite, weight loss, and a variety of stomach issues associated with cancer cachexia. All speakers discussed the significant muscle loss and weakness, which led most to experience severe fatigue and inability to continue their normal activities of daily life. Participants also emphasized the significant mental health aspects of their struggles with cancer cachexia, exacerbated for many by the absence of either a diagnosis of or care for cachexia distinct from that of their cancer.

During the second session, speakers stressed the importance of attacking cancer cachexia from many angles, including medical treatment and non-medical approaches. The common thread among all participants was the great unmet need for people living with cancer cachexia given that existing treatments are of little or no real help in combating the condition and improving how people feel, function, or survive. People try many things in their attempt to manage the physical and psychosocial impact of cachexia, including medication, yoga, meditation, exercise regimens, small/frequent meals, high calorie shakes, and a variety of cannabis products to boost appetite, despite the paucity of research on some of these products and varying legal issues across different states. The importance of having access to palliative care was emphasized, as was the strength some people found to fight the effects of cachexia by focusing on their faith. There was strong desire to see more research in this area, along with a commitment to participate in studies that could bring forward more effective treatments to lengthen and improve quality of life, decrease muscle loss and fatigue, and boost appetite.

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[1] Aoyagi T, Terracina KP, Raza A, Matsubara H, Takabe K. Cancer cachexia, mechanism and treatment. World J Gastrointest Oncol. 2015;7(4):17-29.

DETAILED MEETING SUMMARY

Cancer Cachexia EL-PFDD Meeting Design

The Food and Drug Administration (FDA) is tasked with protecting the public health by ensuring that drugs, vaccines, biological products, and medical devices intended for human use are safe and effective. To enhance its ability to obtain the patient perspective on specific diseases and their treatments, the FDA has conducted disease-specific patient-focused drug development (PFDD) meetings and has welcomed patient organizations to conduct Externally-Led PFDD (EL-PFDD) meetings. Visit **https://www.fda.gov/industry/prescription-drug-user-fee-amendments/externally-led-patient-focused-drugdevelopment-meetings** to learn more about background and guidance on EL-PFDD meetings.

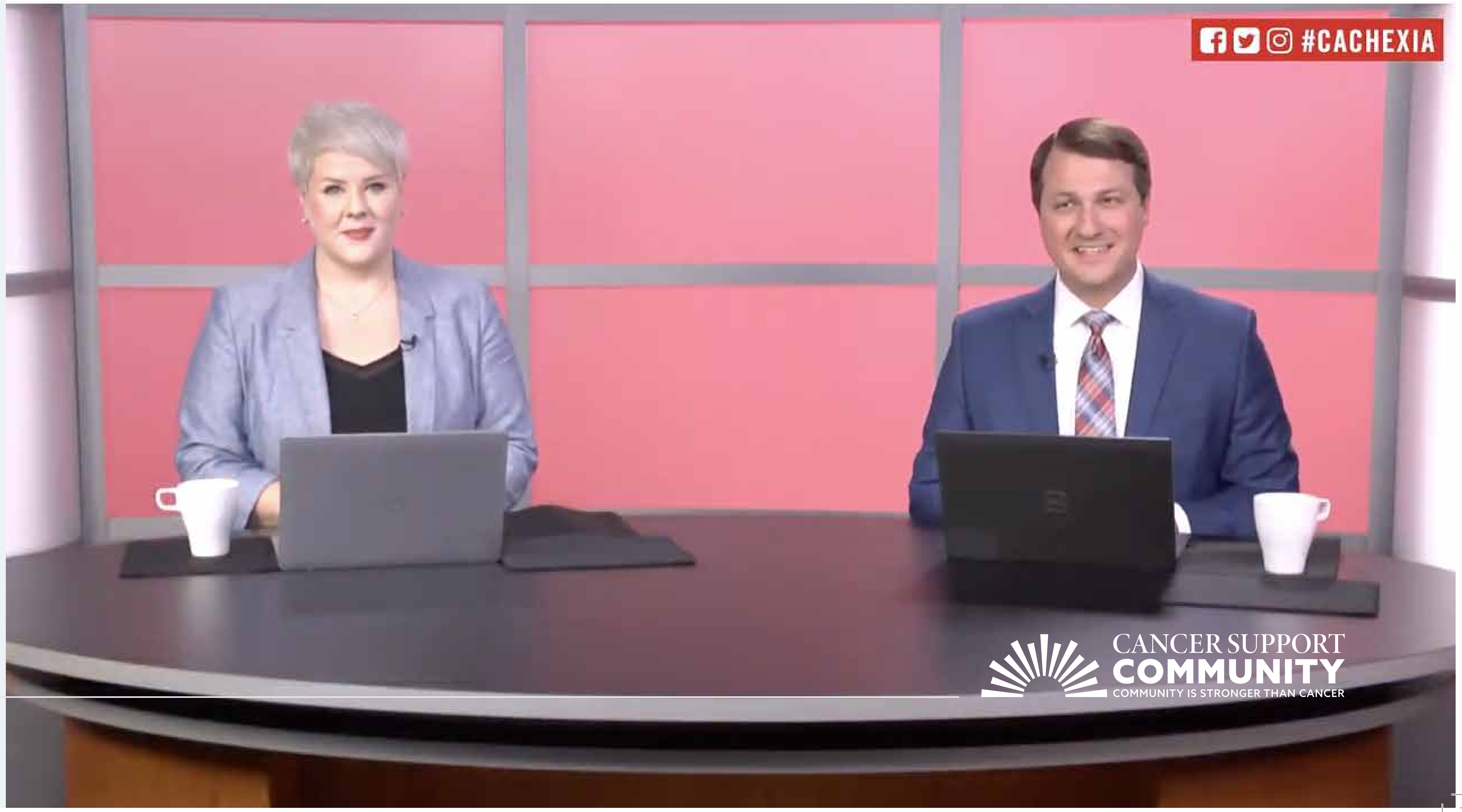
In early 2021, the Cancer Support Community (CSC), submitted a letter of intent to the FDA to commence the process of leading an EL-PFDD, with the support of other patient organizations including Cholangiocarcinoma Foundation (CCF), LUNGevity Foundation (LUNGevity), the Pancreatic Cancer Action Network (PanCAN), and AnCan, an EL-PFDD meeting focused on cancer cachexia. Held on November 2, 2021, the cancer cachexia EL-PFDD meeting became the 53rd EL- PFDD meeting and the 19th to be held virtually (due to the ongoing COVID-19 pandemic). This event enabled the cancer community to share information about the burdens of the condition and perspectives on future treatments. The goal was to provide input to support FDA, medical product developers, health care providers, researchers, and other key stakeholders' understanding of the severity of the condition, the urgency of current unmet medical needs for patients, and the importance of future consideration of novel treatment options.

The meeting was designed to bring together diverse members of the cachexia stakeholder community of patients, family members, partner patient advocacy groups, academic investigators, clinicians, industry partners, and government agency colleagues to gain a deeper understanding of the symptoms and burdens of cancer-related cachexia in daily life, as well as the unmet needs of the community.

The voices of patients and caregivers impacted by cancer cachexia were heard through their testimonials, live polling of the broader audience, open discussions with the meeting attendees, and post-meeting surveys. The EL-PFDD meeting was attended via livestream webcast by more than 135 registrants.

The meeting was moderated by James Valentine, JD, MHS, of Hyman, Phelps & McNamara who has led many EL-PFDD meetings and previously worked at the FDA, where he helped launch the PFDD program. The meeting consisted of two panel sessions, with patients and caregivers providing testimonials and engaging in facilitated discussion. Participants had the opportunity to contribute by submitting written comments and calling in, as well as responding to live-polling questions. In the 30 days after the meeting, individuals had the opportunity to review the recording and submit additional written comments.

A recording of the entire EL-PFDD meeting is permanently available on the CSC website. See Appendix 5 for the link to view the recording or read the associated transcript.



On average,
35 participants
responded to each of the
15 live polling questions.

→ **25%**
were individuals living with cancer cachexia

→ **75%**
identified as relatives or care partners

MEETING PARTICIPANT DEMOGRAPHICS

Instant polling questions were used to identify the demographics of the livestream audience for the meeting. On average, 35 participants responded to each of the 15 live polling questions. Of those, 25% were individuals living with cancer cachexia, while more than 75% identified as relatives or care partners. Poll respondents were relatively evenly divided between women and men (53%-47%), and primarily hailed from the Eastern US time zone (68%), with some representation from across the country as well as from Europe.

Participants living with cachexia or those represented by caregivers during the meeting reflected a wide range of age groups, with the largest representation of those responding to the polling questions being in the above-60 categories (58%). A variety of cancer diagnoses were represented (led by lung and blood cancers, at 19% each), as well as the ages at which the onset of cachexia symptom occurred (56% with symptoms first occurring above the age of 60).

REPORT OVERVIEW

This Voice of the Patient (VoP) Report summarizes the perspectives shared by patients and caregivers at the EL-PFDD meeting, including responses/results from panelists, people who called or wrote in, and an average of 35 people who took part in the live polling during the meeting. Comments submitted in writing during and after the meeting are reflected throughout the report. The terms and language used in this report to describe cancer cachexia symptoms, impacts, treatment experiences, and priorities for future treatments reflect those used by meeting participants.

This report intends to support and enhance FDA, medical product developers, health care providers, researchers, and other key stakeholders' understanding of:

- *The symptoms and burden on patients living with cancer cachexia and their caregivers*
- *Patient perspectives on the treatments and approaches currently used to manage the condition*
- *Patients' aspirations for features of ideal future treatments*

By describing the patient experience with cancer cachexia, this document highlights the serious nature of the condition and the significant unmet needs of patients and caregivers. It is hoped this report will help incorporate the patient voice in drug development to inform sponsors on the design of their investigations and using patient experiences when the FDA is evaluating products for marketing approval, including evaluating the benefit-risk of new treatments. Specifically, information in this report can help inform sponsors and the FDA about patient-centered endpoints for cancer cachexia clinical trials and identifying, collecting, measuring, and considering patient and caregiver experiences that are meaningful and help inform the review and approval process.

In this report, patients and caregivers are collectively referred to as "participants." We use the term "caregiver" to refer to a family member, partner, or friend who provides (or did provide) direct care for the patient.

FDA PERSPECTIVE

Meeting participants included multiple officials from the FDA, including Dr. Theresa Kehoe, Director of the Division of General Endocrinology within the Center for Drug Evaluation and Review (CDER). Dr. Kehoe's division reviews drugs developed to treat a variety of metabolic conditions, including cachexia.

In brief opening comments, Dr. Kehoe emphasized the agency's interest in developing clinical outcome measures and trial endpoints that reflect clinically meaningful change or benefit for patients under study. While noting that current cancer cachexia trials include such endpoints as measurement of muscle mass and change in weight, such measures do not always provide insight about whether the patient's condition is improving. The opportunity to hear directly from patients and their caregivers about what is most important in treatment or management of cachexia through the EL-PFDD format provides the team at FDA with a clearer picture of how to evaluate potential new therapies.

> "We would like to hear what specific things patients look for in an ideal treatment to manage their cancer cachexia. What symptoms or disabilities associated with cancer cachexia are most important? What duration of treatment would you look for? These types of discussions will help inform the focus of new drug development and future clinical trials."
>
> *Dr. Theresa Kehoe, FDA*

Cachexia is defined as an involuntary loss of muscle mass, with or without fat mass loss, caused by a disease such as cancer. It affects the nervous system (e.g., appetite control and hormone secretion), muscles, adipose tissue, the liver, the immune system, the gastrointestinal systems, and other vital body functions.

OVERVIEW OF CANCER CACHEXIA

To provide context for the discussion, Dr. Jose Garcia of the University of Washington provided a brief clinical overview of cancer cachexia broken into four sections: defining cancer cachexia, describing its symptoms and diagnosis, reviewing current management approaches, and providing an overview of key research needs.

What is Cancer Cachexia?

Cachexia is defined as an involuntary loss of muscle mass, with or without fat mass loss, caused by a disease such as cancer[2]. It affects the nervous system (e.g., appetite control and hormone secretion), muscles, adipose tissue, the liver, the immune system, the gastrointestinal systems, and other vital body functions. This condition is not fully reversible by nutritional support, and it leads to progressive functional impairment.

Cancer is not the only cause of cachexia as this is seen with many other chronic conditions such as lung, heart, or renal disease, or simply aging. It is estimated that more than 5 million Americans live with cachexia and as many as half of all patients with cancer may eventually develop cachexia.

There are multiple factors that contribute to cancer-related cachexia and several of them are often present at the same time. There are tumor-related factors, such as how aggressive the tumor is and whether it is progressing or causing inflammation. There are factors related to the patient's age or other preexisting conditions such as lung or heart disease, depression, and hormonal issues. Additionally, toxicities related to cancer treatment contribute to cachexia. For example, surgery, radiation, chemotherapy, and opioids can cause difficulty swallowing, malnutrition, constipation, or poor appetite.

Symptoms & Diagnosis of Cancer Cachexia

Signs and symptoms of cachexia include poor appetite, severe weight loss, low muscle strength and functionality, poor tolerance to anti-cancer therapy, and decreased survival. Presentation of cancer cachexia can vary significantly from patient to patient.

To diagnose cachexia, clinicians and clinical study researchers consider multiple inter-related assessments. The first is body mass, which can be assessed by simply weighing the patient in the clinic, or by other more sophisticated methods in research studies, such as a CT scan, an MRI, or a densitometry/DEXA scan. Clinicians also evaluate symptoms, including appetite, fatigue, and/or quality of life. Patients are asked how they feel and function. Additionally, there are evaluations of strength and physical function using a clinician-rated score (the Karnofsky score)[3] as well as measures of grip strength, stair climbing power, a six-minute walk distance test, or actigraphy measures. Finally, clinicians are also looking for information related to emerging markers of inflammation (e.g., C-Reactive Protein) or other markers such as testosterone.

Current Management & Treatment Approaches

The American Society of Clinical Oncology (ASCO) recently published guidelines on the management of cancer cachexia[4]. In most cases, a visit with a dietician and the use of nutritional supplements are recommended. In a few settings, a visit with a physical therapist and an exercise regimen are recommended. While there

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[2] Roeland, EJ, Bohlke, K, Baracos, VE, Bruera, E, del Fabbro, E, Dixon, S, Fallon, M, Herrstedt, J, Lau, H, Platek, M, Rugo, HS, Schnipper, HH, Smith, TJ, Tan, W, Loprinzi, CL. Management of Cancer Cachexia: ASCO Guideline. Journal of Clinical Oncology 2020 38:21, 2438-2453.

[3] The Karnofsky Performance Scale Index allows patients to be classified as to their functional impairment. This can be used to compare effectiveness of different therapies and to assess the prognosis in individual patients. The lower the Karnofsky score, the worse the survival for most serious illnesses. Timmermann C. 'Just give me the best quality of life questionnaire': the Karnofsky scale and the history of quality-of-life measurements in cancer trials. Chronic Illn. 2013;9(3):179-190.

[4] Roeland, EJ, Bohlke, K, Baracos, VE, Bruera, E, del Fabbro, E, Dixon, S, Fallon, M, Herrstedt, J, Lau, H, Platek, M, Rugo, HS, Schnipper, HH, Smith, TJ, Tan, W, Loprinzi, CL. Management of Cancer Cachexia: ASCO Guideline. Journal of Clinical Oncology 2020 38:21, 2438-2453.

are currently no approved medications in the United States for the treatment of cachexia, there are several therapeutics used off-label, with limited results[5].

Patients and caregivers cite multiple approaches to managing the symptoms of cancer cachexia, including the use of nutritional supplements, appetite stimulants, anti-depressants, cannabis, physical therapy, meditation, journaling, and psychotherapy.

Recently, knowledge regarding the pathophysiology of cancer cachexia has increased and new therapeutic targets have been identified through pre-clinical models and non-interventional studies of cancer patients. While several targets were validated in early phase clinical studies, later stage clinical trials of drugs aimed at these targets have failed[6].

Current Research

As of late 2021 several phase-three clinical trials had reported data. However, eligibility criteria and endpoints were varied in these studies, making them difficult to evaluate collectively. More research is needed to validate animal models and to inform clinical trial design focused on different patient phenotypes, including how best to select the target population and define clinically meaningful outcomes for those patients[7].

Although there are multiple tools to measure the impact of cachexia among cancer patients, the field lacks consensus about the best test to use. While physical function, and especially the ability to perform activities of daily living, is very important to patients, caregivers, and healthcare providers, most clinical studies use outcome measures related to body mass rather than function. More research is needed to define validated, clinically meaningful measures of how a patient feels (e.g., appetite, fatigue, quality of life) and functions (e.g., mobility, activities of daily living).

Cancer cachexia presents with different phenotypes based on the individual patient, the underlying disease, and a variety of anti-cancer treatment factors. It is therefore unlikely that a single therapy will treat all aspects of the disease[8]. For this reason, a multi-disciplinary approach including clinicians, nurses, dieticians, physical therapists, social workers, and psychologists will likely be necessary to adequately address all the unmet needs surrounding this condition.

More research is also needed to validate animal models and to inform clinical trial design focused on different patient phenotypes and selection of the target population. Research efforts should focus on developing clinical trials in a network that can validate entry criteria, endpoints, outcomes, study methods, and the potential synergistic effects of combining different drugs, nutrition, and exercise.

"There are urgent needs in cachexia. This includes expanding education among patients, caregivers, and providers about the importance of cachexia and increasing evidence, resources, and insurance coverage for supportive medical nutrition and physical therapy. More research is needed to inform how we select patients for a clinical trial and the clinically meaningful outcomes that will define whether the study was successful."

Dr. Jose Garcia,
University of Washington

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[5] Naito T. Emerging Treatment Options For Cancer-Associated Cachexia: A Literature Review. Ther Clin Risk Manag. 2019;15:1253-1266

[6] Marceca, GP, Londhe, P, Calore, F. Management of Cancer Cachexia: Attempting to Develop New Pharmacological Agents for New Effective Therapeutic Options. Frontiers in Oncology. 2020;10, 298.

[7] Dunne RF, Mustian KM, Garcia JM, Dale W, Hayward R, Roussel B, Buschmann MM, Caan BJ, Cole CL, Fleming FJ, Chakkalakal JV, Linehan DC, Hezel AF, Mohile SG. Research priorities in cancer cachexia: The University of Rochester Cancer Center NCI Community Oncology Research Program Research Base Symposium on Cancer Cachexia and Sarcopenia. Curr Opin Support Palliat Care. 2017 Dec;11(4):278-286.

[8] Argilés JM, López-Soriano FJ, Stemmler B, Busquets S. Therapeutic strategies against cancer cachexia. Eur J Transl Myol. 2019;29(1):7960. Published 2019 Feb 27.

KEY THEMES

Throughout the EL-PFDD meeting, multiple key themes and shared experiences emerged relating to areas of unmet need for cancer cachexia patients and their caregivers, including:

While cancer diagnoses are very serious, participants note that the cancer cachexia can be equally or even more significant in leading to a negative outcome.

"Cancer cachexia, as it is medically known, has made life as I knew it unrecognizable."
- *Rochelle, Living with Breast Cancer*

"[My cancer] is a very serious illness, but the effects that I've felt the most, really are from cancer cachexia. This is kind of the silent killer in cancer."
- *Stephanie, Cancer Survivor*

Many people with cancer who develop cancer cachexia have not been given a formal diagnosis of the condition or even heard the term "cachexia" from their medical care providers.

"A term that I had never heard, cachexia, had taken control of my life. My most debilitating cancer foe was unfamiliar to me. I wish there was someone on my medical team that knew about cachexia, that then they could create a patient plan to help me fight it. And it would have relieved myself and my caregivers of unnecessary disease-related stress."
- *Felicia, Breast Cancer Warrior*

"Cachexia was never referenced during my time in active treatment. And it is helpful in survivorship to know this is a common side effect and not unique to my circumstances."
- *John, Cancer Survivor*

"We need a diagnosis early on."
- *Katie, Caregiver*

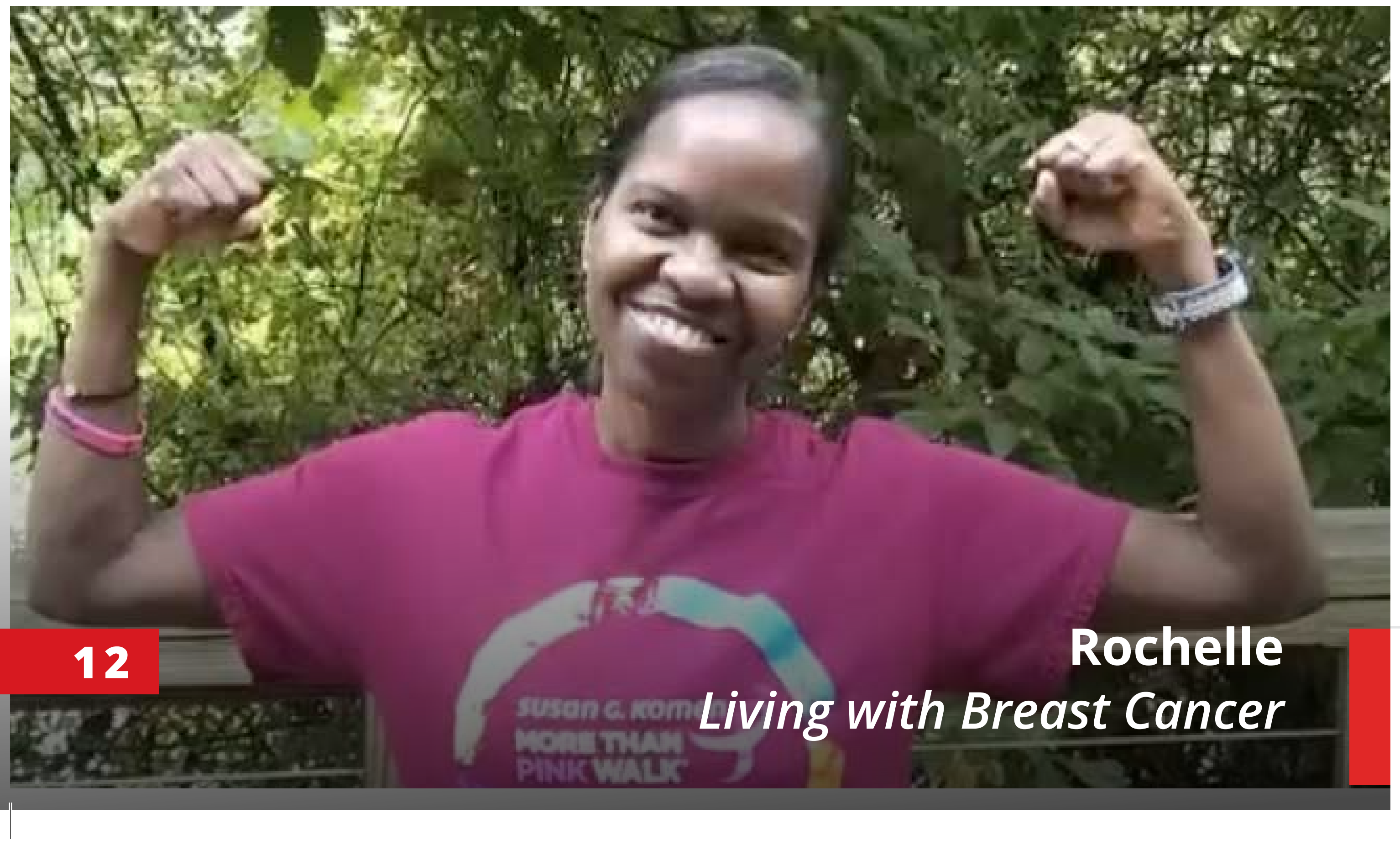
"My mother was given no information about cachexia when my dad was diagnosed with cancer. It wasn't even mentioned until he was actually diagnosed with it, which at that point was almost too late.
- *Kristin, Caregiver of Mother Living with Lung Cancer*

"I wish that we had realized, and that our providers had told us, how serious the cachexia could be. We were all focused on the lymphoma, but it was actually the cachexia that carried him away."

- Martha, Caregiver

Weight loss is often regarded as a positive thing, leading cachexia to go untreated until later stages when it is often too late to reverse or manage.

"When I described my symptoms to my doctor, she gave me a high five and congratulated me for losing 60 pounds in such a short amount of time. We have a blind spot when it comes to rapid weight loss, especially in young people. We're just conditioned to always see weight loss as a positive, even if it's a symptom of something much worse."
- *Megan, Living with Bile Duct Cancer*



Rochelle
Living with Breast Cancer

People who have experienced cachexia report many problems related to eating, poor appetite, weight loss, a variety of stomach issues associated with cancer cachexia, along with significant muscle loss and weakness, and accompanying severe fatigue, loss of independence, and inability to continue normal activities of daily life.

"Eating became a chore and making a meal, forget about it. It took every ounce of energy to eat because I was exhausted, and nothing tasted normal. I did try [to eat], but I couldn't hold my food down, and if I did manage to keep it down, I immediately went to the bathroom after."
- *Rochelle, Living with Breast Cancer*

"[Our daughter] is reliant on my husband and myself, as well as an agency that provides aides to help us. She is no longer able to drive, shop for herself, or even prepare her own meals."
- *Marianne, Parent of a Brain Cancer Survivor*

There are significant mental health aspects of struggling with cancer cachexia, including feelings of isolation, anxiety, and depression.

"For [my father], the decline in the muscle strength and the fatigue was just incredibly debilitating to his way of life and all the things that he really enjoyed. The mental aspect of that takes a toll. With the loss of muscle and the increase in fatigue, you also start to lose the things that you love to do, and so that was particularly difficult to have all of that happening at once."
- *Martin, Caregiver of Late Father who had Pancreatic Cancer*

"Every day is valiant effort towards eating, exercising, putting the right foot forward. It's exhausting."
- *John, Caregiver*

"The mental part is just so difficult for us because we don't really know where to go for help. I don't mean that our oncologists aren't available for us, but this is such a different thing. Do we go to a nutritionist, a naturopath, a physical therapist? It's just very confusing, and it's just one more thing that we struggle with besides our drug treatments, everything else. The whole thing is scary. We don't really know what to do."
- *Carol, Living with Multiple Myeloma*

Existing medical treatments are of little or no real help in improving how people with cancer cachexia feel or function. Many people try medications, including therapies to address anxiety and depression, yoga, meditation, exercise regimens, small/frequent meals, high calorie shakes, and even a variety of cannabis products to boost appetite.

"The process of suffering cancer is no longer what it was 30 or 40 years ago. And yet with cachexia, we're still pretty much in the same place."
- *Stephanie, Cancer Survivor*

> "My biggest fear is the impact that cachexia will have on my overall cancer diagnosis."
>
> ***- Rochelle, Living with Breast Cancer***

People with cachexia worry about their future, whether they will be able to live independently or continue to receive anti-cancer treatment.

"I feel like I am losing some of my independence."
- *Sandra, Cancer Survivor*

"No matter what the side effect was or what you're dealing with, you can kind of hear that long term ongoing impact of living with cachexia. And it's not just a today problem."
- *Daryl, Colorectal Cancer Survivor*

More research is needed to improve treatments and approaches to manage cancer cachexia that can lengthen and improve quality of life, decrease muscle loss and fatigue, and boost appetite.

"I don't see very much [research] on cancer cachexia. I see the drugs they're using may have more side effects than we have with the cachexia, which is worrisome. We need to figure out the borderline between the cancer and the cachexia. We don't have that much research on cannabis and whether it is promoting the cancer more or helping us with our cachexia."
- *Kay, Cancer Survivor*

MEETING DISCUSSION TOPIC 1:

Living with Cancer Cachexia

The morning session of the EL-PFDD meeting was focused on hearing from patients and caregivers about what it is like to live with cancer cachexia. Five panelists – four cancer survivors and one caregiver – presented brief descriptions of their experiences, emphasizing their symptoms and the impact of cancer cachexia on their lives. Key points from their comments are included in the Voices of Patients and Caregivers section below.

After the panelists spoke, there was commentary by a Zoom panel, followed by meeting participants being led through a moderated discussion with live polling questions and the opportunity to call-in or submit written comments.

Polling: Most Significant Symptoms

When asked "Which of the following cancer cachexia-related health concerns do you or your loved one have/had in the past (select all that apply from a list of 13 specific items and "other" category)?" poll respondents emphasized loss of appetite, muscle weakness, and the feeling of fatigue/tiredness as the top symptoms (11% each), followed by severe weight loss and mood changes (10% and 9% respectively). Other symptoms, including mood changes (depression/anxiety), loss of taste and diarrhea/upset stomach each were cited by 9% and 7% respectively.

Five panelists – four cancer survivors and one caregiver – presented brief descriptions of their experiences, emphasizing their symptoms and the impact of cancer cachexia on their lives.

Responses to a polling question asking for the "Top three most troublesome various health concerns or symptoms that you have/had in the past?" among a list of 13 specific items and "other" yielded a tie for the number-one concern/symptom between muscle weakness and the feeling of tiredness/ fatigue (21%). The next -highest ranked concerns/symptoms were loss of appetite and severe weight loss (12% and 11% respectively). Many people expressed experiences with most of the listed symptoms, so ranking the top three was challenging.

Polling: Impact of Cancer Cachexia on Daily Life

In response to the question, "What specific activities of daily life are most important to you that you're either not able to do or you struggle with due to cancer cachexia?", the top selection by poll participants from a list of 9 specific categories of activities and "other" was the ability to enjoy food or eating (17%), with self-care activities like bathing and dressing selected by 15%. The ability to travel and vacation, participating in sports or recreational activities, and chores were selected by 13%, 13% and 11% respectively.

When asked about the future and describing "What worries you about your/ your loved one's cancer cachexia in the future?", more than one fourth of poll respondents selected "not having the energy to work and live as you/your loved one would want to" (27%). The second biggest worry cited was the "stress of not knowing how it [the cachexia] will progress" (25%) and the third on the list was the "impact on my cancer treatment and healing process" (17%).

Voices of Patients and Caregivers

The following selection of patient and caregiver comments reflects the primary symptoms and impacts on daily life that were discussed by meeting participants:

Loss of Appetite/Lack of Interest in Food/ Weight Loss/Muscle Wasting

"My daughter has no interest in food. If left alone, she will never eat."
- *Marianne, Parent of Brain Cancer Survivor*

"Eating became a chore and making a meal, forget about it. It took every ounce of energy to eat because I was exhausted, and nothing tasted normal."
- *Felicia, Breast Cancer Warrior*

"I look at food as being a medicine that I need to do every day, so I eat breakfast, lunch, and dinner, and I have a snack in between. In spite of all that, I still lost muscle tone and lost a lot of weight."
- Sandra, Cancer Survivor

Gastrointestinal Issues

"I did try [to eat], but I couldn't hold my food down, and if I did manage to keep it down, I immediately went to the bathroom after."
- *Rochelle, Living with Breast Cancer*

"I started to tolerate different foods less and less. I stopped having an appetite, and I couldn't digest certain foods as well as I used to."
- *Megan, Living with Bile Duct Cancer*

Fatigue/Exhaustion/Inability to Exercise/Inability to Conduct Activities of Daily Living (ADLs)

"The symptoms of Cachexia are long term and even in remission, they still affect your quality of life. Whether physical or emotional, you are just not able to feel as capable of participating in daily activities as your peers. No matter what the side effect was or what you're dealing with, you can kind of hear that long term ongoing impact of living with cachexia. And it's not just a today problem."
- *Daryl, Colorectal Cancer Survivor*

"The fatigue and the weakness started within just a few weeks of my first treatment. Just to walk my beautiful little pug 10 minutes left me winded."
- *Rochelle, Living with Breast Cancer*

"It's really difficult to psych yourself up to take that extra step, get out there on the bike, do this or do that because I don't feel like it. I have absolutely no energy. I have pain, but I need to do that, otherwise the next day I will have more pain or less physical ability. So I force myself to keep going and going and going."
- *Carol, Living with Multiple Myeloma*

Worry/Stress/Depression

"I just completely lost the desire to exercise and felt too physically drained to even try. That led to a lot of muscle loss, and all of this combined led to depression."
- *Michael, Living with Colorectal Cancer*

> *"The idea of not eating has further made me feel isolated and caused significant anxiety and depression. Socially, things are totally different. I've lost friends, the career that I knew and loved, and some of the activities that I love most, which are traveling and community service."*
>
> ***- Felicia, Breast Cancer Warrior***

Other Symptoms:

"My throat and chest began to hurt when I ate solid foods, so I was placed on a liquid diet. I began to have issues with my teeth and developed a bad case of GERD. Now, in addition to everything else, I had to see a dentist every three to four months for a specialized cleaning, just so that I don't lose my teeth."
- *Rochelle, Living with Breast Cancer*

"I have been racked with leg cramps together with many other symptoms."
- *Jerry, Cancer Survivor*

Daryl
Colorectal Cancer Survivor

> "[During the] more extreme presentation of cachexia, there were other things that were happening besides the fatigue and the muscle weakness like sores in the mouth and on his hands. There were some effects on his skin that even made it hard to hold a spatula or give somebody a hug. There was a lot of pain associated with touching and physical touch. And there was a point where he had some trouble opening his mouth all the way in addition to the sores in the mouth. We struggled to understand if those were treatment effects or cachexia effects. I think they were cachexia effects, but I'm not sure if anyone even necessarily knows exactly the answer to that question."
>
> ***- Martin, Caregiver of Late Father who had Pancreatic Cancer***

Cognitive Issues/Mood Changes

"It manifests in kind of a brain fog. Fatigue comes in, and you find that you don't have your executive functioning skills at your fingertips. You're not remembering important facts. You're just trying to struggle to get through the day. By the end of the day, it's taking a nap between calls, making an alarm on my phone, waking up and being completely disoriented. It's that level of variability. If I knew that I was going to be that tired, then one plans in accordance with that, but you can't stop living your life because you might be exhausted one day."
- *Stephanie, Cancer Survivor*

MEETING DISCUSSION TOPIC 2:

Patient Perspectives on Treatments for Cancer Cachexia

The afternoon session focused on different approaches for treating and managing cancer cachexia and elicited participants' preferences about potential future treatments. To kick off the conversation, five panelists – four cancer survivors and one caregiver – provided brief testimonials describing their experiences with treatment approaches for managing cancer cachexia. Key points from their comments are included in the Voices of Patients and Caregivers section below.

After the panelists spoke, there was commentary by a Zoom panel, followed by meeting participants being led through a moderated discussion with live polling questions and the opportunity to call-in or submit written comments.

Polling: Perspectives on Current Treatments

Meeting participants were asked, "Which medications and medical treatments have you recently used or has your loved one recently used to treat cancer cachexia?" The top selection among seven specific options (and "other" or "none") poll respondents was use of antidepressant/antianxiety medications (21%), followed by use of appetite stimulants and other medications (17% each) and a variety of steroids (13%).

In response to the question, "What are you currently doing to help manage symptoms of cancer cachexia beyond medication?", respondents selected small and more frequent meals and exercise as the top approaches (16% each), followed by use of cannabis/CBD and nutritional supplements (15% each) from a list of 11 specific options, as well as choices of "other" or "nothing."

When asked, "How well does your current regimen control your/or your loved one's cancer cachexia overall?, 38% of poll respondent said that their current regimen does not control their cancer cachexia at all, 23% responded that it helps somewhat, 23%, said very little and only a small minority, 8%, said that it helps to a great extent (8% said "not applicable" as they are not doing anything to manage cachexia).

Respondents were next asked, "What are the biggest drawbacks of your current approaches?" The top choice among five options (and "other" and "not applicable") for response to this question was that current approaches to managing cancer cachexia are not very effective (26%), followed by financial burden related to the high cost/lack of insurance coverage (22%), limited availability or accessibility (19%), requires too much effort and/or time commitment (19%), and side effects (7%).

Voices of Patients and Caregivers

The following selection of patient and caregiver comments reflects participants' perspectives on the utility and limitations of various categories of current treatment approaches that they are using or have tried in the past:

Diet/Nutrition/Supplements

"I supplemented with high protein foods and found that a daily glass of Metamucil added regularity to my digestive tract. I also ended up eliminating coffee and wine from my diet and replaced them with a decaffeinated green tea and water cranberry drink. This also helped to further improve my digestive tract and overall body hydration. None of this was suggested by my medical team."
- Daryl, Colorectal Cancer Survivor

"I'm taking a number of supplements under the guidance of my naturopath and with my oncologist's understanding. I also try to eat a low sugar diet, which means no candy, no sugar, and minimal fruits. Eating with extreme care helps with my energy level and SIBO (small intestinal bacterial overgrowth) symptoms."
- Carol, Living with Multiple Myeloma

"We tried small and frequent portions, soft and palatable foods, and foods with low fragrance and low spiciness. All of our nutrition effort was geared toward weight loss presumed to be due to the side effects of chemotherapy. We did not get any guidance for treating a possible metabolic cancer-related disorder nor were we briefed on some such a disorder."
- Lisa, Caregiver of Late Husband who had Pleural Mesothelioma

"I was relentless in making him drink Ensure milkshakes made with milk, and then I replaced water with another high calorie drink like Ensure Clear. I wanted to make sure that it had some sort of calories and nutrients."
- Linda, Caregiver of Late Father who had Acute Myeloid Leukemia

"The simple and most effective solution has been fast-food shakes. Of course, the irony is with many cancers you want to avoid sugar throughout your treatment. Then there comes a point when you're encouraging people close to you to consume sugar because they can and because they like to. Because at that point in time, quality of life is way more important than survival."
- John, Caregiver

"One idea that worked really well was to place several silicone cupcake holders into a flat food storage container and put a small portion of different foods into each cup. It's like a bento box. Colorful, lightweight, appetizing, and not overwhelming."
- Susan, Caregiver

"The mind body relationship changes entirely when it's unpredictable what your body might throw up. I am surprised in the medical field that there's not more attention to this. Your oncologist is there to give you the perfect chemo mix. But nutritional status is going to impact anything that you do in your treatment. This bifurcated approach is unhelpful."
- Stephanie, Cancer Survivor

"Medical marijuana **helps with nausea, appetite, and sleeping."**

- Carol, Living with Multiple Myeloma

CANCER SUPPORT
COMMUNITY
COMMUNITY IS STRONGER THAN CANCER

Polling: Perspectives on Ideal Treatments for Cancer Cachexia

In the final polling question, respondents were asked, "Which aspects of your condition/your loved one's condition would you rank as most important for a possible new drug today?"

Top responses among the seven specific choices (plus "other") included:

25%	Providing more energy or strength
20%	Living longer
18%	Slowing/stopping progression of weight loss
15%	Stimulating appetite
13%	Helping with weight gain/maintaining current weight
8%	Decreasing diarrhea or stomach upset
3%	Making food taste and smell better

Medications (Anti-Nausea/Anti-Depression/Megestrol Acetate/Gabapentin/Steroids/Anti-Diarrheal/Stool Softeners)

"There was a moderate improvement after asking my oncologist to prescribe Gabapentin and incorporating massage and soaking my feet in a warm Epsom salt bath. Initially, I began my recovery process with natural and mostly non-prescription medications. They included calcium carbonate, topical steroid ointments, Immodium, stool softener, turmeric capsules with black pepper, and extra strength Tylenol. With the exception of the calcium and the topical steroids, none of these were recommended by my medical professionals"
- *Daryl, Colorectal Cancer Survivor*

"I was aware of a number of medicines and other tactics that could be tried to stimulate the appetite, and none of them worked particularly well for the patients that I was working with, so we didn't try that."
- *Linda, Caregiver of Late Father who had Acute Myeloid Leukemia*

"Of the treatments that were currently available that my dad was taking, he was doing the megestrol acetate. The palliative care doctor recommended testosterone for him."
- *Kristin, Caregiver*

Cannabis/Medical Marijuana/CBD Oil

"Medical marijuana helps with nausea, appetite, and sleeping."
- *Carol, Living with Multiple Myeloma*

"I thought about how I could get my hands on marijuana and mix marijuana into his milkshake, but it was illegal in the state of Indiana."
- *Linda, Caregiver of Late Father who had Acute Myeloid Leukemia*

"One thing that I've seen work very well is medical marijuana usually taken through a vape. It stimulates appetite. It also helps immensely with nausea."
- *John, Caregiver*

Feeding Tube

"I was diagnosed with severe protein calorie malnutrition. The solution for this diagnosis was a surgical insertion of a feeding tube into my stomach. In hindsight, I asked the doctors, mainly the nutritionist, to be more forthcoming and transparent about the likelihood of weight loss; to approach the possibility of a feeding tube from a positive point of view."
- *Melvin, Head and Neck Cancer Survivor*

Experimental Therapies (Clinical Trials/Compassionate Use)

"We tried to get emergency use authorization from the FDA for compassionate use for my dad of a very promising drug in terms of increasing muscle mass and quality of life in patients with cachexia. We did this through a palliative care doctor because his oncologist wouldn't do the paperwork. I spoke to the drug company to make sure they would provide it for my dad if the FDA approved it. Unfortunately, the FDA approved it two days after he passed away."
- *Kristin, Caregiver*

"With my father-in-law's diagnosis I was trying to look up clinical trials. There was a drug [being tested], but we had no access to it. It's not something that was in our area or that we could even explore."
- *Katie, Caregiver*

Exercise/Yoga/Meditation/Massage

"My morning pain is treated with stretching, yoga routines, and sauna. My cachexia has benefited more from physical than drug-related treatments."
- *Carol, Living with Multiple Myeloma*

"Really focusing on faith and mindfulness rounds out the comprehensive cancer care experience."
- *Rochelle, Living with Breast Cancer*

Palliative Care/Naturopathy/Psychosocial Support

"Palliative specialists know how to deal with muscle wasting and with nausea, or with diet and have access to provide mental health support. When patients are fortunate enough to be attending an NCI hospital or an NCCN hospital, a lot of these extra bells and whistles like diet or exercise are available. But if you are in the middle of the country and you are in a community cancer center, you are really struggling to find access to nutrition support, never mind a palliative care doctor."
- *Rick, Caregiver & Founder of AnCAN*

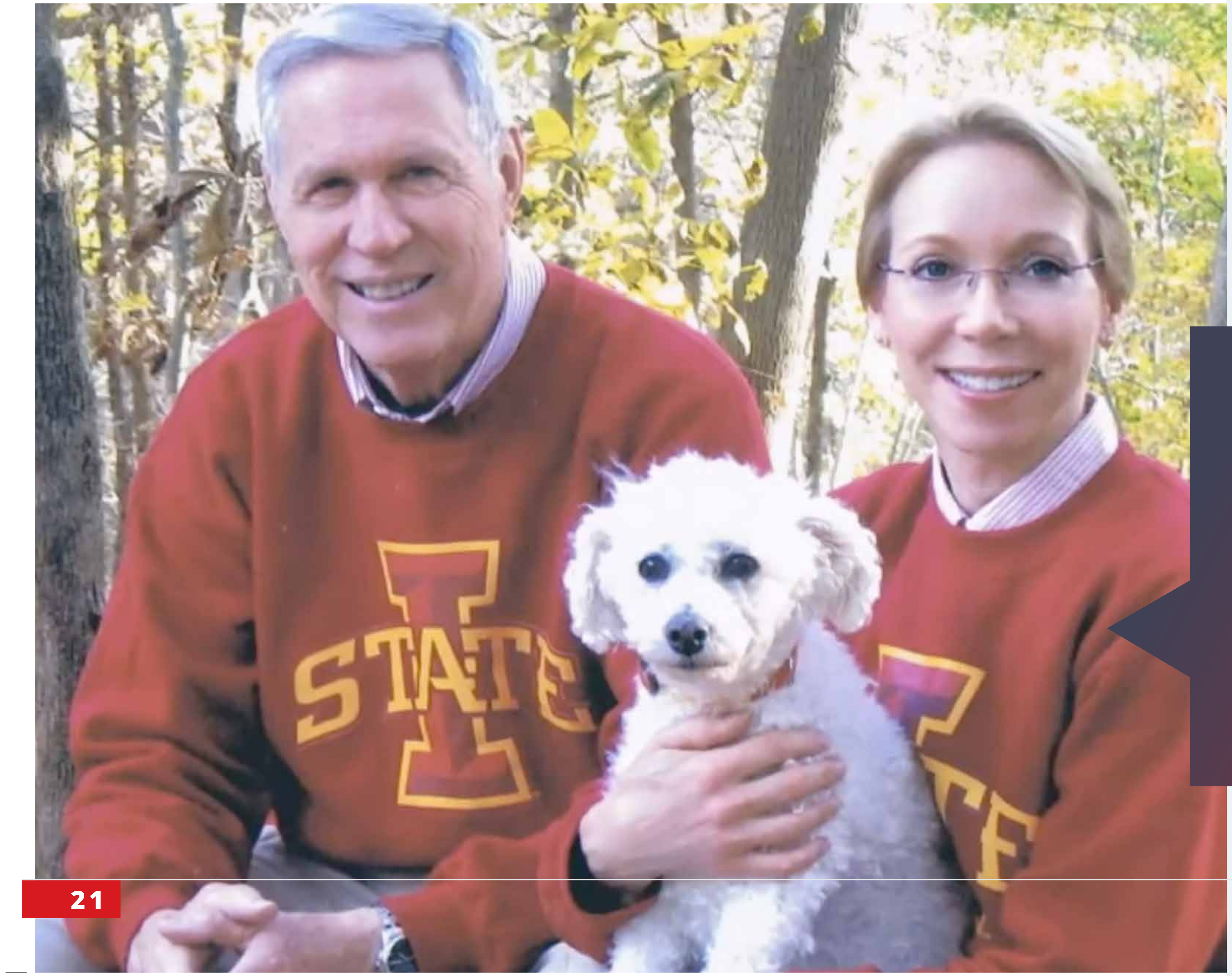
"Naturopaths may provide a lot of treatment options that are not available through our medical team, and they can test for other conditions that our doctors are unfamiliar with."
- *Carol, Living with Multiple Myeloma*

"You do so much to treat your body. You've got to remember, you have to treat your mind, too."
- *Kay, Cancer Survivor*

"We need to treat the whole person spiritually, mentally, and physically."
- Katie, Caregiver

VOICES OF PATIENTS AND CAREGIVERS

As a final set of discussion points for the meeting, participants were asked to further discuss their views on what should be the emphasis in development of new treatments and management approaches for cancer cachexia.



"Providing the energy increase in strength and muscle mass and increase in weight gain would have improved my dad's quality of life. Also, early diagnosis and education and information because my mother was given no information about cachexia when my dad was diagnosed with cancer. It wasn't even mentioned until he was actually diagnosed with it, which at that point was almost too late."
- Kristin, Caregiver

"If there's a pill that can deal with the muscle wasting situation, I think that's where I would focus. That's what we're experiencing in my family. My mom's eating, but she can't stand."
- Kristen, Caregiver of Mother Living with Lung Cancer

"Most important would be the increased energy and strength and appetite because doctors at a certain point stop [anti-cancer] treatment when the patient is too weak. Cachexia is kind of the face of cancer, and doctors look at it and use it as a judge of 'can this patient tolerate any more treatment?'"
- Katie, Caregiver

"I hope that more targeted cancer therapies will be discovered which may reduce nausea and eating difficulties."
- Lisa, Caregiver of Late Husband who had Pleural Mesothelioma

SUMMARY OF SUBMITTED WRITTEN COMMENTS

During the event and for an additional 30 days after the meeting, participants were invited to submit written comments.

A total of 38 written comments were received for inclusion in this report. Those comments are summarized in this section.

Living with Cancer Cachexia

“Even after my husband had gone into remission, he still had little appetite and little success in retaining food. Earlier diagnosis, better communication, improved methods of caring, as well as drug treatment for specific issues would have made an enormous difference in my husband’s quality of life.”

“I’m an 8-year and 10-month pancreatic survivor who lost 60 pounds in four months. Cachexia is not on my problem list in Epic My Chart.”

“It is key to stay hopeful and positive that everything is going to be ok. Without that, we feel hopeless and the mental part creeps back in.”

“Standard terminology would aid understanding. Is the condition cachexia, sarcopenia, adult failure to thrive, or what? Are there more helpful ways of defining it than weight loss? Physicians, NPs, and nutritionists differ on what is causing the syndrome and who is responsible for following it. What is a survivor or caregiver supposed to do?”

“It seems the healthcare system is set up from a medical perspective but not set up to help patient journeys work better – it is not patient-centric.”

“As a pancreatic cancer patient who had cachexia but was never diagnosed, I found the Wellness Community (today Cancer Support Community) which helped me move forward on diet, exercise, education, and not feeling alone.”

“The shortage of psychological support is the only hole we’ve found in the extraordinary care my spouse has received. Webinars like this one today are a valued respite. As a caregiver, I thank you for offering this.”

“My husband died from throat cancer and had cachexia as an effect of the cancer. He went from being an athletic man, to being very sedentary. He continued to get thinner and thinner and gaunt throughout his entire cancer experience and eventually died. He looked like a skeleton face. The sad part was that his brain was still working but his body deteriorated.”

“I think as investigators in cancer cachexia research, it is our duty to listen to and learn from patient and caregiver perspectives on living with cancer cachexia.”

Perspectives on Treatments

“We need to stress the importance of better training and education on the part of medical oncologists; not to mention a greater willingness to collaborate with palliative care doctors in joint treatment of patients.”

“Our chemo and radiation treatments damage some of our internal organs. We need more collaboration with medical doctors and naturopaths because many cancer patients may have an underlying gut issue that may be treatable.”

“I would like to see the oncologists have more confidence in adding palliative care to the cancer treatment plan.”

“I have always thought nutrition is one of the most lacking disciplines in cancer care.”

“As a cachexia researcher I am gaining new insights in how this devastating condition affects people – not patients – people! In the same way we treat the tumor – we must treat the person.”

INCORPORATING PATIENT INPUT INTO A BENEFIT-RISK FRAMEWORK FOR CANCER CACHEXIA

In 2013, the FDA published a draft implementation plan for a structured approach to benefit-risk assessment in drug regulatory decision making. Updated in 2018, this plan currently reflects a requirement of the 21st Century Cures Act that the agency issue guidance on how patient experience data will be incorporated into the structured benefit-risk assessment framework to inform regulatory decision making.

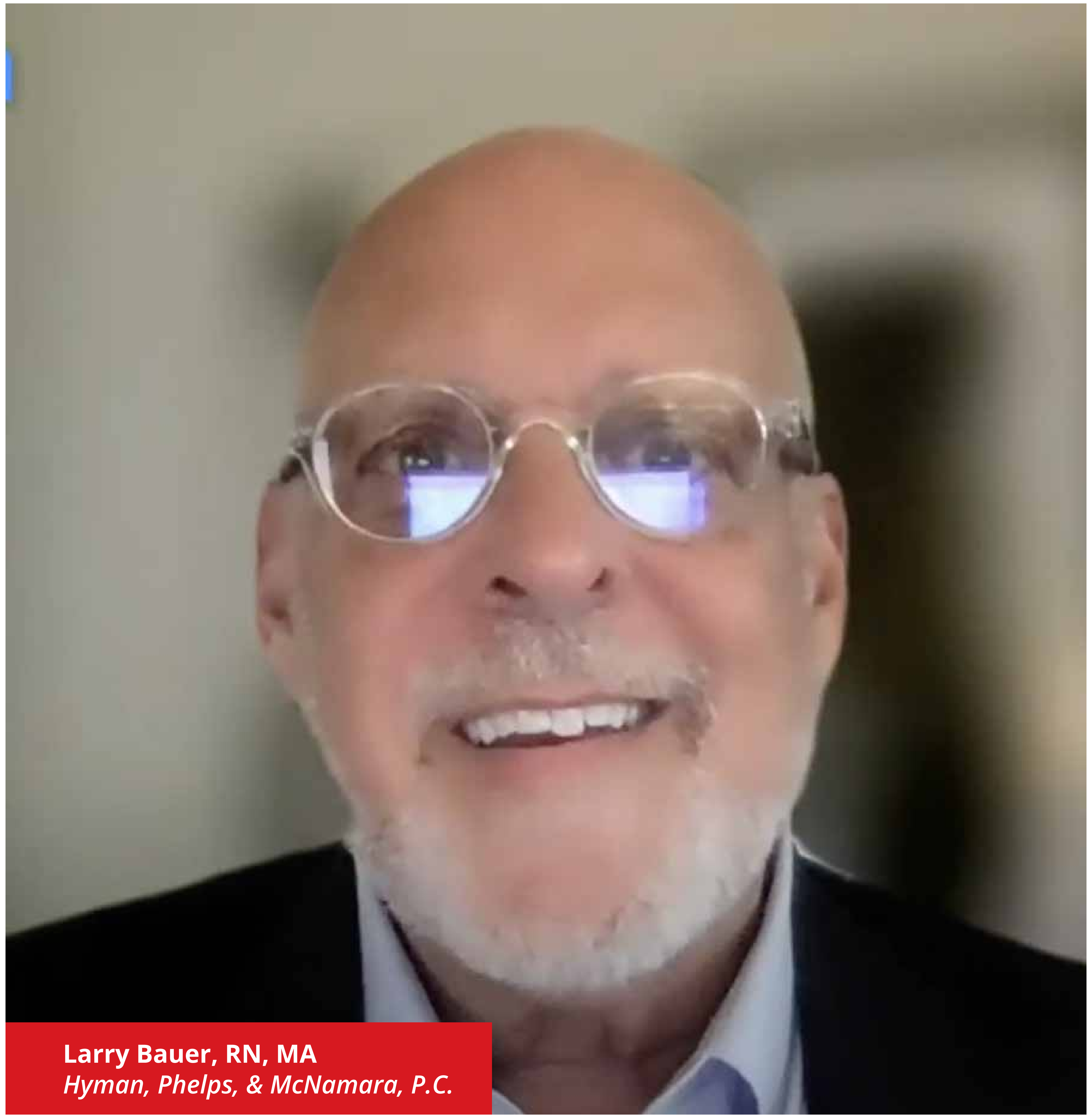
The structured benefit-risk assessment framework calls for assessment of four decision factors:

- **Analysis of Condition**
- **Current Treatment Options**
- **Benefit**
- **Risk and Risk Management**

When completed for a specific product, this framework summarizes each decision factor and explains the FDA's rationale for its regulatory decision. The benefit-risk framework is important for both regulatory and treatment decisions.

The PFDD process allows patients' voices to inform the development of a benefit-risk framework for use in the evaluation of new treatments. People living with the disease or condition have a unique perspective on the dimensions that are most important and critical to regulatory decision making, the unmet medical needs of others with their condition, and the benefit-risk tradeoffs that may be acceptable across the continuum of the disease. Their input thus should guide therapeutic development to ensure that treatments have clinical meaningfulness and address aspects of disease that are most critical to people living with the disease.

Information generated during the EL-PFDD on cancer cachexia provide important insights for therapy developers and regulators seeking to reflect the perspective of people with cancer cachexia. Armed with these insights, drug developers should be better able to design clinical trials to assess outcomes that are clinically meaningful and, hopefully, achieve a higher chance of success. Likewise, defining benefit expectations and risk tolerance among people with cancer cachexia when considering various treatment options should enable better characterization of tradeoff decisions faced by patients, families, and healthcare providers, as well as regulators.



Larry Bauer, RN, MA
Hyman, Phelps, & McNamara, P.C.

Input provided by people with cancer cachexia and their caregivers during the EL-PFDD is summarized here in this sample framework (Table 1) to provide all stakeholders with an understanding of the potential benefit-risk aspects for these decision factors. This sample framework is likely to evolve over time and could be incorporated into a benefit-risk assessment framework for a specific cancer cachexia drug under review in the future.

TABLE 1. SAMPLE BENEFIT-RISK DIMENSIONS FOR CANCER CACHEXIA

DIMENSION	EVIDENCE AND UNCERTAINTIES	CONCLUSIONS AND REASONS
ANALYSIS OF CONDITION	• ~50% of cancer patients eventually develop cachexia • Cancer cachexia can be significant in leading to a negative outcome • Cachexia is characterized by drastic, unintentional weight loss and muscle wasting • Cancer cachexia varies among patients, types of cancer, and cancer treatment approaches	There is high unmet medical need for people with cancer cachexia. It is unlikely that a single therapy will treat all aspects of the disease.
IMPACT ON ACTIVITIES OF DAILY LIVING	• Symptoms include poor appetite, weight loss, stomach issues, significant muscle loss, weakness, severe fatigue, loss of independence, and inability to continue normal activities of daily life • Cancer cachexia causes significant mental health issues, including feelings of isolation, anxiety, and depression	Better treatments for cancer cachexia are urgently needed to improve clinical outcomes and quality of life for people with cancer who also experience cachexia.
CURRENT TREATMENT OPTIONS	• Nutritional interventions and appetite stimulants are used to treat cachexia • These approaches show low evidence of effectiveness • Existing medical treatments are largely ineffective • Progesterone analogs have been used but may also cause harm. • A 2019 ASCO consensus paper states that "evidence remains insufficient to strongly endorse any pharmacologic agent to improve cancer cachexia."	Research efforts should focus on the potential synergistic effects of combining different drugs, nutrition, and exercise. There is a need for effective and tolerable FDA-approved therapies to treat cancer cachexia.
FUTURE TREATMENT OPTIONS	Patients and caregivers seek treatments to: • Provide them more energy or strength • Help them live longer • Slow/stop progression of weight loss • Stimulate appetite • Help with weight gain/maintaining current weight	Clinical trials focusing on these outcomes should be advanced to develop therapies to treat cancer cachexia. Regulators should consider data related to these outcomes during review of potential new therapies.

Conclusion & Acknowledgments

Patients and families who are dealing with cancer cachexia (whether it is officially diagnosed or not) have often felt alone and confused by the condition's unintended weight loss and other debilitating effects. There continues to be a tremendous unmet medical need for people living with cachexia. This public forum to catalogue the experiences and unmet needs of the patient and caregiver community will help provide vital input to regulators, clinicians, and product developers who all share an interest in improving treatment approaches.

CSC is proud to have led the effort to host this meeting and we remain grateful to the many individuals who stepped forward to share their stories, including describing the impact that cachexia has had on their lives, as well as their fears and their hopes for the future.

Our deepest thanks to everyone who played a role in the successful execution of this EL-PFDD.

Appendices

Appendix 1: Meeting Agenda & Demographic Questions
Appendix 2: Patient Panel Participants
Appendix 3: Meeting Participant Demographics
Appendix 4: Discussion Questions
Appendix 5: Link to Additional Resources, Meeting Recording, and Meeting Transcript

APPENDIX 1: MEETING AGENDA & DEMOGRAPHIC QUESTIONS

10:00 – 10:05AM	***Opening Remarks, Introductions, and Meeting Goals*** *Elizabeth Franklin, Cancer Support Community*
10:05 – 10:10AM	***FDA Remarks - The Role of Patients in Drug Development*** *Dr. Theresa Kehoe, Food and Drug Administration*
10:10 – 10:20AM	***Overview of Discussion Format*** *James Valentine, Meeting moderator*
Morning Session: Living with Cancer Cachexia - Symptoms and Daily Impact	
10:30 – 10:35AM	***Audience Demographic Polling Questions***
10:35 – 11:05AM	***Panel 1: Patient & caregiver perspectives on symptoms and daily impacts***
11:05 – 12:25PM	***Audience Discussion and remote polling on Topic 1***
12:25 – 12:55PM	***Break***
Afternoon Session: Current & Future Approaches to Treatment for Cancer Cachexia	
12:55 – 1:25PM	***Panel 2: Patient & caregiver perspectives on current and future treatments***
1:25 – 2:45PM	***Audience Discussion and remote polling on Topic 2***
2:45 – 2:55PM	***Meeting Summary***
2:55 – 3:00PM	***Wrap Up and Thank You***

Demographic questions

1. Are you?
A. An individual living with cancer cachexia
B. A relative or care partner of someone with cancer cachexia

2. Where do you currently reside?
A. US Pacific time
B. US Mountain time
C. US Central time
D. US Eastern time
E. US Alaska time
F. US Hawaii time
G. Europe
H. Middle East
I. Asia
J. Canada
K. Mexico
L. Other

3. Are you or your loved one with cancer cachexia:
A. Female
B. Male
C. Non-binary
D. Prefer not to identify
E. Other

4. How old are you or your loved one?
A. 0-17 years of age
B. 18-30 years of age
C. 31-50 years of age
D. 51-60 years of age
E. 61-70 years of age
F. 71 years of age or older

5. At what age did you or your loved one first have symptoms of cancer cachexia?
A. Birth to 18 years of age
B. 19-30 years of age
C. 31-50 years of age
D. 51-60 years of age
E. 61-70 years of age
F. 71 years of age or older

6. What type of cancer led to having cachexia?
A. Lung
B. Breast
C. Skin/melanoma
D. Prostate
E. Colorectal
F. Kidney/bladder
G. Non-Hodgkin's lymphoma
H. Thyroid
I. Endometrial
J. Pancreatic
K. Leukemia/blood cancer
L. Cholangiocarcinoma
M. Other

Topic 1 - LIVING WITH CANCER CACHEXIA: SYMPTOMS AND DAILY IMPACT

7. Which of the following cancer cachexia-related health concerns do you or your loved one have or have had?
Select ALL that apply
A. Severe weight loss – 10%
B. Loss of appetite – 11%
C. Repelled/disgusted by food – 5%
D. Nausea – 5%
E. Loss of taste – 7%
F. Diarrhea or stomach upset – 7%
G. Pain – 5%
H. Inability to gain weight even if eating well – 6%
I. Muscle weakness – 11%
J. Brain fog or other cognitive impacts – 6%
K. Fatigue or tiredness – 11%
L. Malnutrition – 4%
M. Mood changes: depression or anxiety – 9%
N. Other – 3%

8. Select the TOP 3 most troublesome cancer cachexia-related health concerns that you have or have had. Select up to 3

A. Severe weight loss – 11%
B. Loss of appetite – 12%
C. Repelled/disgusted by food – 0%
D. Nausea – 2%
E. Loss of taste – 2%
F. Diarrhea or stomach upset – 9%
G. Pain – 4%
H. Inability to gain weight even if eating well – 5%
I. Muscle weakness – 21%
J. Brain fog or other cognitive impacts – 7%
K. Fatigue or tiredness – 21%
L. Malnutrition – 2%
M. Mood changes: depression or anxiety – 5%
N. Other – 0%

9. What specific activities of daily life are most important to you that you are NOT able to do or you struggle with due to cancer cachexia? Select TOP 3

A. Travel/vacationing – 13%
B. Doing chores around the house (cooking, cleaning) – 11%
C. Self-care activities (bathing, dressing) – 15%
D. Enjoying food or eating – 17%
E. Going out to eat – 7%
F. Participating in social engagements/events – 9%
G. Participation in sports/recreational activities – 13%
H. Attending school or having a job – 9%
I. Interacting with family members – 4%
J. Other – 2%

10. What worries you most about your or your loved one's condition in the future? Select TOP 3

A. The stress of not knowing how cancer cachexia will progress – 25%
B. Increased difficulties eating – 8%
C. Worry about social impacts – 4%
D. GI/stomach issues – 8%
E. Not having the energy to work and live as I want to – 27%
F. Impact on my cancer treatment and healing process – 17%
G. Fear of dying – 10%
H. Other – 0%

Topic 2 - PERSPECTIVE ON CURRENT AND FUTURE APPROACHES TO TREATMENT

11. What medications or medical treatments have you recently used to treat cancer cachexia? Select ALL that apply

A. Megestrol acetate – 8%
B. Oxandrolone/prednisone/dexamethasone (steroid) – 13%
C. Dronabinol – 4%
D. Treatments for GERD – 8%
E. Other appetite stimulants – 17%
F. Antidepressant or antianxiety medication – 21%
G. Feeding tube – 0%
H. Other medications – 17%
I. I have not used medications or medical treatments recently – 13%

12. Besides medications and treatments, what are you currently doing to help manage the symptoms of cancer cachexia? Select ALL that apply

A. Seasoning or spices on food – 5%
B. Small and more frequent meals – 16%
C. Cannabis or CBC – 15%
D. Vitamin B-1 – 2%
E. Omega-3 fatty acids – 4%
F. Bitter herbs (gentian, wormwood) – 0%
G. Exercise – 16%
H. Stress management – 5%
I. Acupuncture – 2%
J. Meditation – 9%
K. Nutritional Supplements – 15%
L. Other – 11%
M. I am not doing anything to manage my symptoms – 0%

13. How well does your current regimen control your cancer cachexia overall?

A. Not at all – 38%
B. Very little – 23%
C. Somewhat – 23%
D. To a great extent – 8%
E. Not applicable because I'm not using anything – 8%

14. What are the biggest drawbacks of your current approaches? Select up to three

A. Not very effective - 26%
B. High cost or co-pay, not covered by insurance – 22%
C. Limited availability or accessibility – 19%
D. Side effects – 7%
E. Route of administration (injections) – 0%
F. Requires too much effort and/or time commitment – 19%
G. Other – 4%
H. Not applicable as I am not using any treatments – 4%

15. Which aspects of your condition would you rank as most important for a possible new drug today? Select up TOP 3

A. Stimulating appetite – 15%
B. Help with weight gain or maintain current weight – 13%
C. Providing more energy or strength – 25%
D. Decrease diarrhea or stomach upset – 8%
E. Make food taste and smell better – 3%
F. Slowing or stopping progression – 18%
G. Living longer – 20%
H. Other – 0%

APPENDIX 2: PATIENT PANEL PARTICIPANTS

Panel 1 Panelists:

Megan
Felicia
Michael
Rochelle
Marianne

Panel 2 Panelists:

Linda
Melvin
Daryl
Lisa
Carol

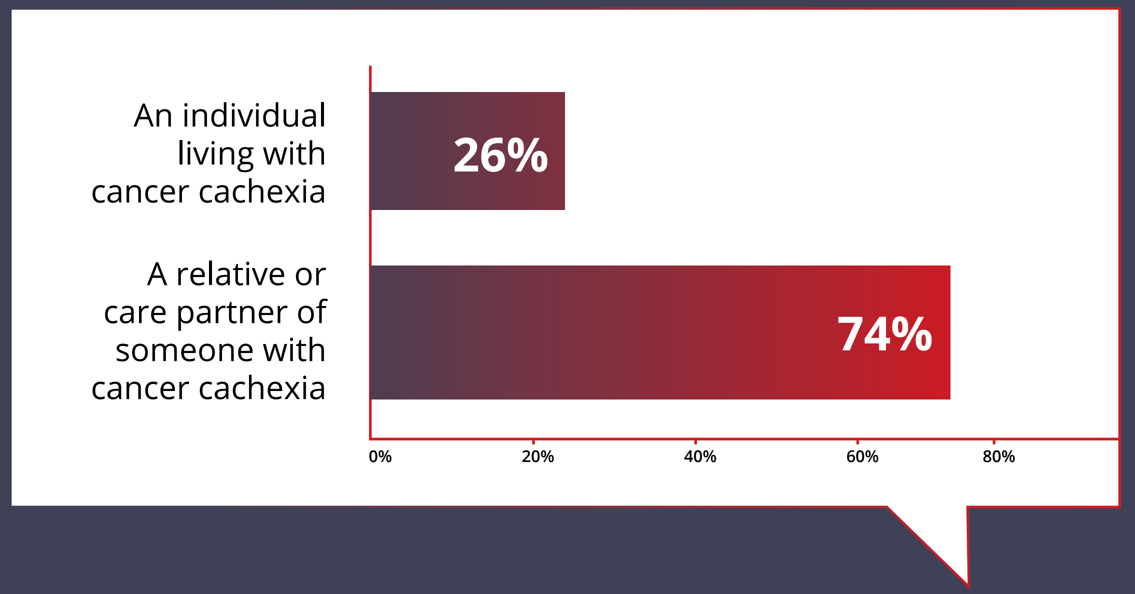
Discussion Starters:

Stephanie
Martin
Kristen
Kay
John
Sandra
Kristin
Rick
Katie

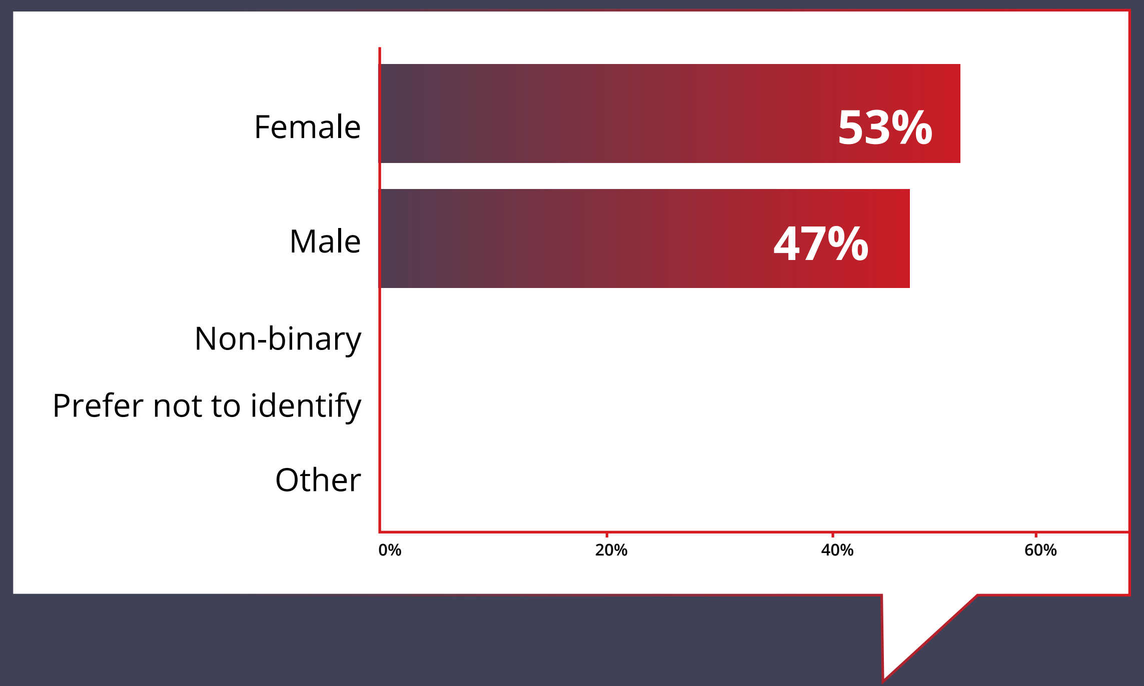
APPENDIX 3: MEETING PARTICIPANT DEMOGRAPHICS

Instant polling questions were used to identify the demographics of the livestream audience for the meeting. On average, 35 participants responded to each of the 15 live polling questions. Of those, one fourth were individuals living with cancer cachexia, while more than 75% identified as relatives or care partners. Poll respondents were relatively evenly divided between women and men (53%-47%), and primarily hailed from the Eastern US time zone (68%), with some representation from across the country as well as from Europe.

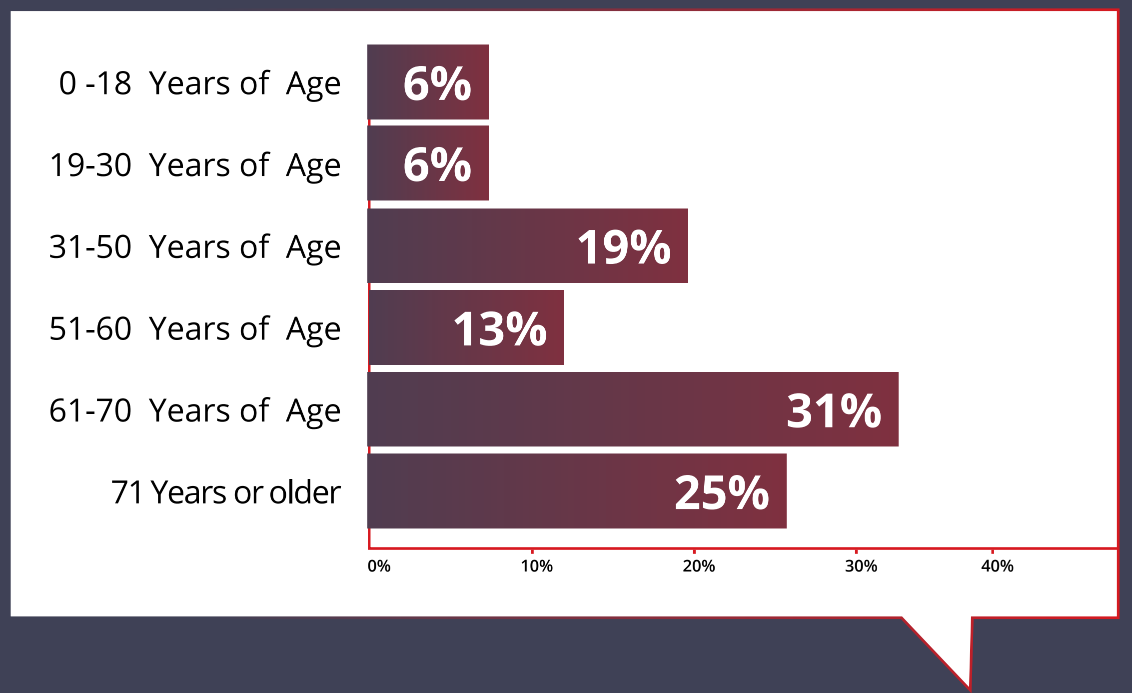
ARE YOU?



ARE YOU OR YOUR LOVED ONE WITH CANCER CACHEXIA:

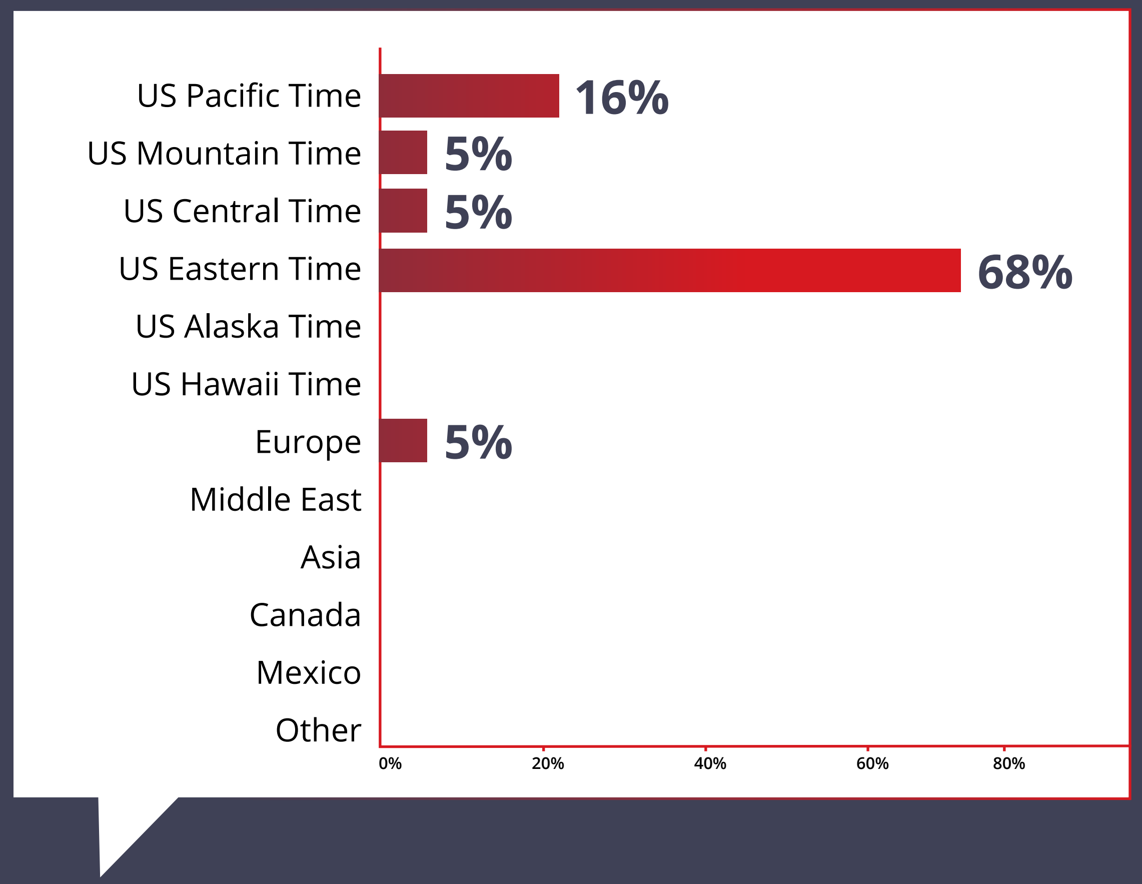


AT WHAT AGE DID YOU OR YOUR LOVED ONE FIRST HAVE SYMPTOMS OF CANCER CACHEXIA?

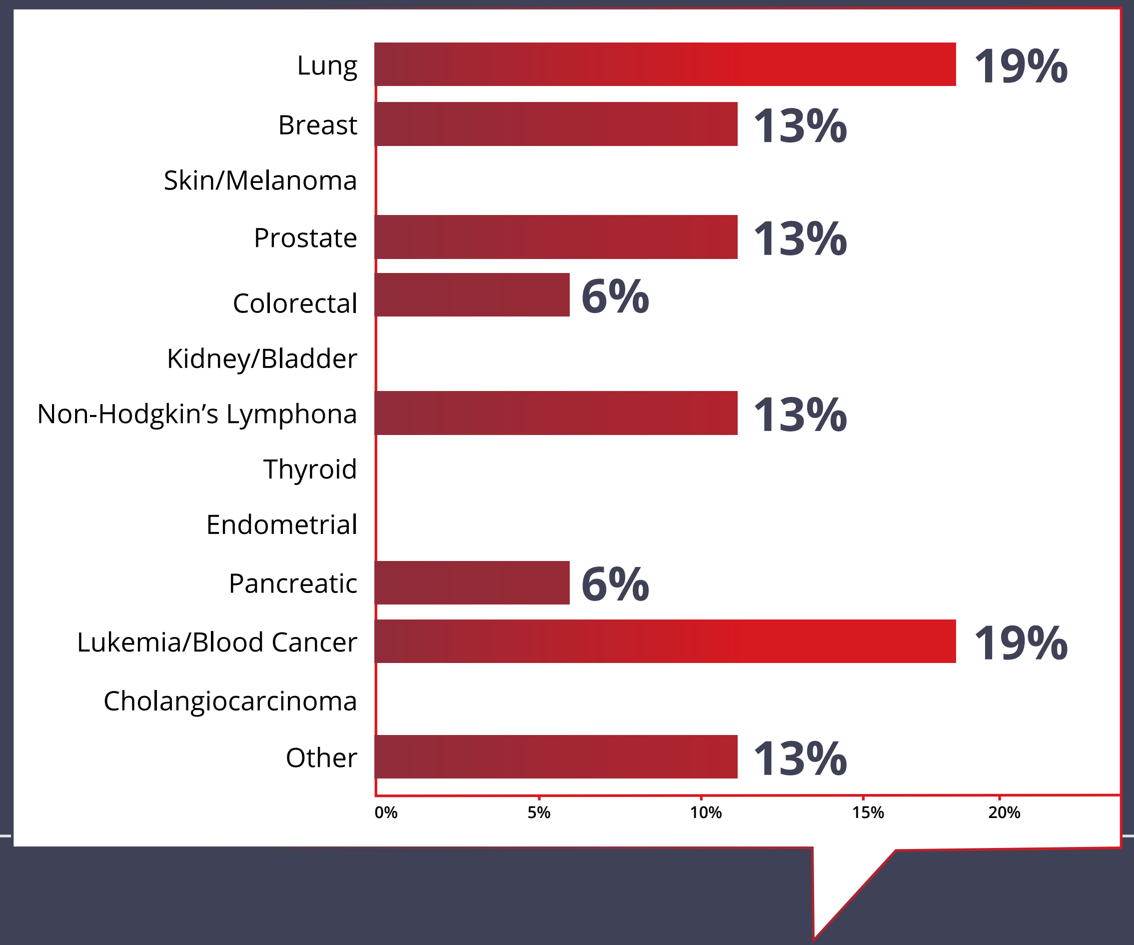


Participants living with cachexia or those represented by caregivers during the meeting reflected a wide range of age groups, with the largest representation of those responding to the polling questions being in the above-60 categories (58%). A variety of cancer diagnoses were represented (led by lung and blood cancers, at 19% each), as well as the ages at which the onset of cachexia symptom occurred (56% with symptoms first occurring above the age of 60).

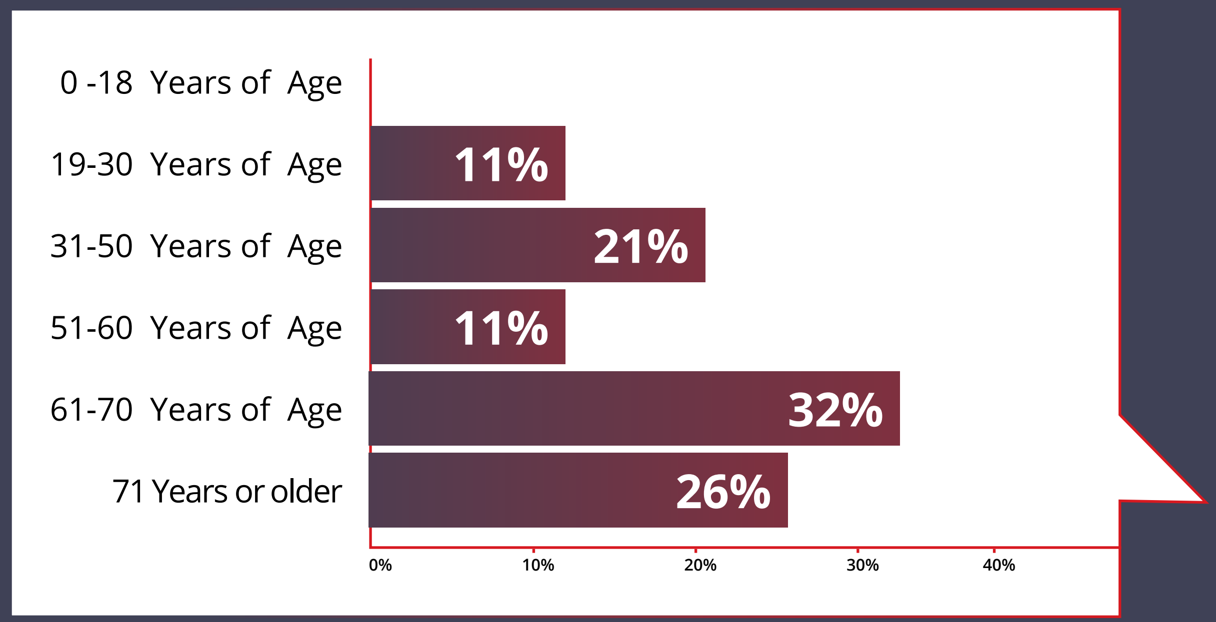
WHERE DO YOU OR YOUR LOVED ONE CURRENTLY RESIDE?



WHAT TYPE OF CANCER LED TO HAVING CACHEXIA?



HOW OLD ARE YOU OR YOUR LOVED ONE?



APPENDIX 4: DISCUSSION QUESTIONS

Discussion Questions

TOPIC 1 – LIVING WITH CANCER CACHEXIA: SYMPTOMS AND DAILY IMPACT

1. Of all the symptoms and health effects of cancer cachexia, which 1-3 have the most significant impact on your or your loved one's life?

a) Which symptoms most affect you or your loved one now?

b) Which symptoms were the most significant at other times in your or your loved one's life?

c) What were the first symptoms that you detected (where you suspected something was off, or when looking back after diagnosis you now believe to be related to cancer cachexia)

2. How does cancer cachexia affect you or your loved one on best and on worst days? Describe your best days and your worst days.

3. How have you or your loved one's symptoms changed over time? How has the ability to cope with the symptoms changed over time?

4. Are there specific activities that are important to you or your loved one that you or they cannot do at all or as fully as you or they would like because of cancer cachexia?

a) How does cancer cachexia affect your or your loved one? What are the challenges you/they face?

b) How does cancer cachexia affect life activities (school/work, learning abilities, self-sufficiency, living situation, activities, etc.)?

c) If you or your loved one could do one activity that you or your loved one currently is unable to, what would it be?

5. What do you fear the most as you or your loved one gets older? What worries you most about your or your loved one's condition?

a) What capabilities are you most concerned about you or your loved one potentially losing while growing older?

b) What frustrates you most about your or your loved one's condition?

TOPIC 2 – PERSPECTIVE ON CURRENT AND FUTURE APPROACHES TO TREATMENT

1. What are you currently doing to manage your or your loved one's cancer cachexia symptoms?

a) Which specific cancer cachexia symptoms do the treatments address?

b) How has this treatment regime changed over time and why?

2. How well do these treatments treat the most significant symptoms and health effects of cancer cachexia?

a) How well do these treatments improve the ability to do specific activities that are important in daily life?

3. What are the most significant downsides to your or your loved one's current treatments and how do they affect daily life? (Examples of downsides may include bothersome side effects, going to the hospital for treatment, etc.)

4. Short of a complete cure, what specific things would you look for in an ideal treatment for cancer cachexia? What factors would be important in deciding whether to use a new treatment?

APPENDIX 5: LINK TO ADDITIONAL RESOURCES, MEETING RECORDING, AND MEETING TRANSCRIPT

https://www.cancersupportcommunity.org/cachexia-pfdd

CANCER SUPPORT
COMMUNITY
COMMUNITY IS STRONGER THAN CANCER

ABOUT THE CANCER SUPPORT COMMUNITY

As the largest professionally led nonprofit network of cancer support worldwide, the Cancer Support Community (CSC), including its Gilda's Club network partners, is dedicated to ensuring that all people impacted by cancer are empowered by knowledge, strengthened by action, and sustained by community. CSC achieves its mission through three areas: direct service delivery, research, and advocacy. The organization's Institute for Excellence in Psychosocial Care includes an international network that offers the highest quality social and emotional support for people impacted by cancer, as well as a community of support available online and over the phone. The Research and Training Institute conducts cutting-edge psychosocial, behavioral, and survivorship research. CSC furthers its focus on patient advocacy through its Cancer Policy Institute, informing public policy in Washington, D.C. and across the nation.

https://www.cancersupportcommunity.org/cachexia-pfdd