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Foundation

IMPACT REPORT

Creating Hope, Advancing Healing & Inspiring Discovery

Presented to:

Desert Mountain CARE

August 2026

8125 N. Hayden Road | Scottsdale, AZ 85258 | 480-587-5000 | **HonorHealthFoundation.org**

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The Life-Changing Impact of Your Generosity

Desert Mountain CARE's steadfast partnership with HonorHealth has made a profound difference in the lives of patients with cancer and the families who love them.

Through more than **$4 million in generous support**, you have advanced groundbreaking cancer research while giving patients something truly invaluable: hope, comfort and more precious time with those who matter most.

Because of you, HonorHealth can provide exceptional care, pursue life-saving discoveries and bring innovative treatments closer to the patients who need them.

In the academic year 2025-2026, we continued our activities in the areas of Bioengineering as it relates to "Rare Cancers" as well as our focus on Rare Cancers themselves with specific elements in Uveal Melanoma.

We have been building on our previous years activity year-over-year and are pleased to be able to provide insight into our activities and advances.

"Your visionary generosity empowers us to advance exceptional patient care and pioneering research that is transforming lives every day.

On behalf of our caregivers, researchers and the communities we serve, thank you for your compassion, trust and commitment to improving the health and well-being of others."

—TODD LAPORTE
CEO

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Advancing Healing. Inspiring Innovation

Bioengineering

In the past year, we have continued our activities in a series of bioengineering enterprises under the direction of Dr. Frederic Zenhausern, including Plant-derived Nano-vesicles (PDNV), Atomic Drugs and Gas Marbles and our evolving Multiplex Point-of-Care assessment.

While all of these technologies have direct potential in cancer, their long-term benefit is diverse. Though in this summary, we will briefly summarize the selected advances in cancer.

Plant-derived Nano-vesicles:
PDNV represents a long-term commitment in terms of assessments and programmatic development.

Our 2025/6 advances include optimization of the characterization of PDNV characteristics that are predicted to be optimized for drug delivery and carrier capability.

We have been working to develop standardized vertical farming technology and in collaboration with Biosphere 2, we have secured a "mini-farm" where we have been optimizing production of PDNV to generate improved nano-sized yield, promote superior cellular uptake and drug releasing capacity with resistance to pH level extremes and physical and biological stability for storage.

We believe that we are near optimization for production of uniform high volume PDNV using the vertical farming technology developed in this project and have begun studies with PDNV loading.

PDNV loading of cytotoxic drugs hold significant promise for enhanced drug delivery by both the intravenous and oral manners. For cancer patients, the PDNV have been loaded with the cytotoxic chemotherapy agent doxorubicin. In pre-clinical models, doxorubicin-loaded PDNVs have demonstrated higher drug delivery efficiency and doxorubicin-loaded PDNV enhanced radio sensitivity of cells compared to "naked" doxorubicin as well as the liposome-encapsulated doxorubicin (Doxil). This suggests that chemotherapy delivery to cancer may be enhanced by the use of drug-loaded PDNV and we are completing the early proof of principle studies in mice bearing cancer tumors to compare these options.

Atomic Drugs and Gas Marbles:
Gas marbles are another drug delivery mechanisms which has been developed in our laboratories and has significant potential value in cancer as well as other settings, including wound healing, stroke and myocardial infarction. The ability to stabilize native or planetary gases in order to selectively deliver them has great potential for local treatment of cancer. Xenon and other noble gases have the ability to reduce toxicities and hydrogen has the ability to sensitize tumors to radiation.

In 2025/6, we developed a strategy to utilize gas marbles carrying planetary gases in the setting of glioblastoma multiform. Several studies have shown that molecular hydrogen possesses anti-tumor properties. Rodents with superficial squamous cell carcinoma, treated with hyperbaric hydrogen demonstrated reduced tumor volume and exhibited the loss of malignant histological features consistent with tumor regression.

We have submitted several grants to further advance our interest in GBM as a focus of our neuron-oncology program.

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Given the inability to serially sample tumor tissue to analyze the effects of various gases on tissues and tumors, we have initiated a program on superficial tumors as well as engineered wounds to accelerate the development of an AI-assisted structural prediction model and are developing machine learning to refine the model for study in a dedicated GPU in conjunction with Google's advanced technology platform. Our hope is that this endeavor will provide predictive platforms for further development in cancer.

Point-of-Care Diagnostics:
Using our validated technology applying vertical flow immunoassays measurements, we have developed a platform designed to assess patients in the setting of advanced immunotherapy treatment for cancer. This VFI technology which was previously tested in a SPACE-X journey as a lab model, potentially applicable for long range space flight, has direct potential in the current clinical arena.

Patients receiving CAR-T or T cell engager therapy are at risk for a complication known as Cytokine Release Syndrome characterized by the systemic release of immune active cytokines such as interleukin-6 and interleukin-1. Untreated or inadequately treated, this toxicity can be life threatening for patients undergoing these treatments.

As a result, most patients need to be closely monitored and are electively hospitalized multiple times during the course of treatment to monitor for and manage these effects.

The largest problem is that measurements of these cytokines, to confirm the syndrome and tailor therapy is not performed in a timely manner since measurements of IL-6 and IL-1 are generally performed by central labs and take roughly one week to return their results.

We have tailored our point of care tool to measure a series of critical labs including IL-1, IL-6, IL-2, interferons, etc. We are presently collecting serial blood samples from patients undergoing these therapies and plan on analyzing the output of the assay.

Our goal would be to develop a predictive model to assess pre-treatment values (low risk patients may be able to be treated as out patients) and to identify "early warning" signs which may identify patients benefitting from early intervention. Collection of samples and study completion are anticipated in 2026/2027.

Rare Cancers

Uveal Melanoma:
We have chosen to focus our attention for rare cancers on the diagnosis of uveal or ocular melanoma.

This is a rare condition and HonorHealth Research Institute has, under the leadership of Dr Justin Moser, has become one of the largest and most productive programs in the United States.

Dr. Moser led a dual site study for the use of Tumor Treating Fields with standard checkpoint inhibitor therapy.

In this group of 10 patients, 50 percent had a reduction in circulating tumor DNA and one patient has had a durable complete remission and the trials provided significant resources for assessment of tumor biopsies, complex imaging strategies, circulating tumor DNA analysis and allowed expansion of the organic portfolio with our Center for Translational with Dr Sunil Sharma.

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Our work has focused on identifying new risk factors in the treatment of UM and in particular seeking an understanding of new targets that may make this one of the most difficult to treat cancers.

The previous year's activities identified a new target that is significantly upregulated in uveal melanoma and is associated with minimal toxicity in knock out models.

We have successfully developed targeted therapies to block this target which is associated with significant inhibition of UM cell growth. Two different treatment considerations are being explored and we hope to have a leader for pre-clinical development in the coming year.

Finally, in addition to the cross-program collaboration in both gas marbles and VFI, we are working with a colleague in Boston to develop macrophage specific antibodies that can be used in uveal melanoma.

Our hope is to make this a proof of principle allowing addition programs in rare cancer (example, gastrointestinal stroll tumors) to develop.

DESERT MOUNTAIN CARE
Together We Make a Difference

Thank you for your continued kindness, generosity and support!