NEWS RELEASE

Lantern Pharma Reports Second Quarter 2025 Financial Results and Business Updates

2025-08-13

Major milestone achieved with successful completion of enrollment for LP-184 Phase 1a clinical trial, with 65 patients enrolled across a range of solid tumors including glioblastoma (GBM); LP-184 is a potential blockbuster drug-candidate with market potential of $10-12 billion USD in annual revenue.

Maximum tolerated dose (MTD) and recommended Phase 2 dose (RP2D) established for LP-184, enabling advancement to upcoming Phase 1b/2 trials being planned for recurrent triple negative breast cancer (TNBC) and recurrent bladder cancer.

Remarkable complete response observed in HARMONIC™ Trial patient: A 70-year-old never-smoker with advanced non-small cell lung cancer (NSCLC) demonstrated a complete response in target cancer lesions following treatment with LP-300 in combination with chemotherapy; the patient had previously failed three prior lines of therapy including tyrosine kinase inhibitors and immunotherapy.

Additional data and clinical findings from the HARMONIC™ Phase 2 trial anticipated in September 2025, including initial response and safety evaluations for patients from the Asian expansion cohort enrolled across sites in Japan and Taiwan.

LP-284 achieves complete metabolic response in therapeutically exhausted patient: A 41-year-old patient with aggressive diffuse large B-cell lymphoma (DLBCL) who had previously failed R-CHOP chemotherapy,

CAR-T therapy, and bispecific antibody therapy achieved complete metabolic response after just two cycles of LP-284.

PredictBBB.ai™ module launched: A proprietary algorithm and machine learning solution for determining the blood brain barrier penetrability of any molecule has been launched publicly as a RADR® module with best-in-class predictive capabilities to support CNS drug development.

RADR® platform enhanced with AI-powered drug combination prediction module: New framework and analytics capabilities based on peer-reviewed research to improve prediction of synergistic cancer drug combinations, with initial focus on DNA damaging agents and DNA repair inhibitors.

Disciplined capital management maintained with approximately $15.9 million in cash, cash equivalents, and marketable securities as of June 30, 2025, providing expected operating runway at least into June 2026.

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), a clinical-stage biopharmaceutical company leveraging its proprietary RADR® artificial intelligence (AI) and machine learning (ML) platform to transform the cost, pace, and timeline of oncology drug discovery and development, today announced operational highlights and financial results for the second quarter 2025 ended June 30, 2025, and provided an update on its portfolio of AI-driven drug candidates and AI platform, RADR®.

“This quarter we observed complete responses in patients across two of our clinical trials, delivering meaningful patient benefit and providing further validation of both the mechanisms and therapeutic potential of our drug candidates,” said Panna Sharma, CEO & President of Lantern Pharma. Simultaneously, our team is transforming our AI platform into functional, accessible modules for the broader oncology community. These parallel advances mark a pivotal inflection point in our clinical and technological evolution, reinforcing our fiscally disciplined, AI-driven approach to addressing critical unmet patient needs with a clear pathway to commercialization and value creation.”

Clinical Pipeline Developments

LP-184: Successful Completion of Enrollment for Phase 1a & Advancing Toward Phase 1b/2 Studies

Lantern successfully completed enrollment of its LP-184 Phase 1a first-in-human trial with 65 patients across multiple solid tumor indications. The trial established both the maximum tolerated dose (MTD) and recommended Phase 2 dose (RP2D), positioning LP-184 for advancement of planned Phase 1b/2 studies in indications with large multi-billion dollar annual market potential, including recurrent TNBC and recurrent bladder cancer.

LP-184 has received Fast Track Designations from the FDA for both glioblastoma multiforme (GBM) and triple negative breast cancer (TNBC), along with four Rare Pediatric Disease Designations for hepatoblastoma, rhabdomyosarcoma, malignant rhabdoid tumors, and atypical teratoid rhabdoid tumors (ATRT). Through its wholly-owned subsidiary Starlight Therapeutics, Lantern is developing LP-184 as STAR-001 for central nervous system cancers.

During the quarter, Lantern announced findings from independent research conducted at Johns Hopkins validating Lantern's data used to secure the FDA Rare Pediatric Disease Designation for LP-184 in ATRT and support planned pediatric clinical trials. The data demonstrated that LP-184, a next-generation acylfulvene clinical-stage drug candidate, significantly extended survival in mouse models of ATRT. In the CHLA06 model, median survival increased from 20 days in the control group to 89 days in the LP-184 treatment group, representing a 345% improvement ($p<0.0001$). In the BT37 model, median survival increased from 68 days to 98 days ($p=0.0422$).

LP-184 is a next-generation acylfulvene drug candidate, a synthetic small molecule belonging to a class of naturally-derived anti-cancer agents. LP-184 works by preferentially damaging DNA in cancer cells that overexpress specific biomarkers or that harbor mutations in DNA damage repair pathways. LP-184 is the product of years of research, including insights from RADR®, Lantern's proprietary AI platform that leverages over 200 billion oncology-focused data points. LP-184 is a prodrug that is converted to its bioactive form inside the cancer cell by PTGR1 (prostaglandin reductase 1), an enzyme that is overexpressed in certain cancers. Once activated, LP-184 creates cytotoxic metabolites that form adducts with DNA, leading to irreparable DNA damage and ultimately tumor cell death.

LP-300 HARMONIC™ Trial: Complete Response Observed Demonstrating Clinical Activity & Successful Completion of Enrollment in Japan

The Phase 2 HARMONIC™ trial continues to advance with enrollment across the United States and expansion sites in Asia. A remarkable complete response was observed in a 70-year-old never-smoker patient with advanced NSCLC who had exhausted three prior treatment regimens. This outcome builds on **previously reported data** showing an 86% clinical benefit rate and 43% objective response rate in the initial safety lead-in cohort.

Additionally the Phase 2 HARMONIC™ trial made advancements in Asia with completion of the Japanese cohort of 10 patients. Multiple centers in Japan participated in the clinical trial including The National Cancer Center Tokyo.

The study is strategically positioned in regions with high prevalence of never-smoker lung cancer patients, with active sites in Taiwan where over 40% of new lung cancer diagnoses occur in never-smokers. Additional clinical data and findings are anticipated in September 2025, including initial safety and response evaluations from the Asian expansion cohort.

The treatment of never-smokers with NSCLC represents a market opportunity estimated at over $4 billion annually. There are no approved therapies specifically targeted at the treatment of never-smokers with NSCLC currently. Lantern is actively exploring collaboration and partnering opportunities to maximize LP-300's commercial potential in multiple geographies.

LP-284: Phase 1a Clinical Trial in Refractory Lymphoma Observed a Complete Response

LP-284 exhibited remarkable clinical activity in a heavily pretreated 41-year-old patient with aggressive Grade 3 diffuse large B-cell lymphoma (DLBCL). Following failure of standard R-CHOP/Pola-R-CHP chemotherapy, CAR-T cell therapy (liso-cel), and CD3xCD20 bispecific antibody therapy (glofitamab), the patient achieved complete metabolic response with non-avid lesions after completing just two doses of LP-284.

This represents the first complete response observed with LP-284. The complete response provides support to the mechanistic rationale and the potential for further future clinical activity in one of the most therapeutically challenging hematological malignancies. Lantern believes that this supports LP-284's synthetic lethal mechanism and potential paradigm-shifting role in treating refractory aggressive lymphomas.

The complete metabolic response achievement positions LP-284 to seek a future role within a global blood cancer market focused on B-cell cancer that is estimated at $4 billion annually, with DLBCL representing the largest aggressive lymphoma subtype affecting approximately 200,000 patients globally each year. The critical unmet need in refractory/relapsed settings represents a substantial commercial opportunity for innovative therapeutic approaches that can deliver meaningful clinical benefit to therapeutically exhausted patient populations.

Intellectual Property Advancements

Lantern significantly strengthened its global intellectual property portfolio during the second quarter with two major patent developments:

European Patent Allowance for LP-284: The European Patent Office (EPO) issued a notice of allowance for a composition of matter patent covering LP-284, expected to be granted with exclusivity through early 2039. This EU patent complements existing composition of matter patents granted in the U.S. (April 2023) and Japan (June 2024), with additional patent allowances in India and Mexico, and applications pending in China, Australia, Canada, and Korea. This expanding international IP portfolio positions LP-284 for global commercialization and strategic partnerships.

Blood-Brain Barrier Prediction Patent Application: Lantern announced the publication of its PCT patent application

(PCT/US2024/019851) covering a novel machine learning solution for predicting blood-brain barrier (BBB) permeability, which received a favorable PCT search report indicating no significant prior art. The technology powering predictBBB™ demonstrates exceptional performance, processing up to 100,000 molecules per hour with industry-leading accuracy. Lantern's AI algorithms currently hold five of the top eleven positions on the Therapeutic Data Commons Leaderboard. The PCT application, if granted, will enable multi-country patent protection for 20 years from the filing date.

RADR® AI Platform Enhancements

Lantern continues to expand the capabilities of its RADR® platform, which now leverages over 200 billion oncology-focused data points and a library of 200+ advanced machine learning algorithms. Key enhancements this quarter include:

PredictBBB.ai™ Module Public Launch: The public release of predictBBB.ai™, an AI module for predicting blood-brain barrier permeability with 94% prediction accuracy, 95% sensitivity and 89% specificity. This addresses a critical pharmaceutical development challenge where only 2-6% of small-molecule drugs can successfully cross the blood-brain barrier.

Drug Combination Prediction Module: An innovative AI-powered module to improve prediction of synergistic cancer drug combinations, with framework and analytics based on peer-reviewed research. The module focuses initially on DNA damaging agents and DNA repair inhibitors, aimed at a market opportunity where approximately $50 billion is spent annually on the development of combination therapies for cancer. The AI module, trained on 221 clinical trials, will be incorporated as part of Lantern's AI platform, RADR®, and will initially focus on tailored combinations of DNA damaging agents and DNA repair inhibitors. The framework and foundational data for the module was published in a peer-reviewed study published in Frontiers in Oncology, "**Clinical outcomes of DNA-damaging agents and DNA damage response inhibitors combinations in cancer: a data-driven review**".

The company plans to make select RADR® modules available to the broader scientific and research community, fostering collaborative, open-source innovation in oncology drug development while creating potential new revenue streams.

Financial Results for Second Quarter 2025

Balance Sheet: Cash, cash equivalents, and marketable securities were approximately $15.9 million as of June 30, 2025, compared to approximately $24.0 million as of December 31, 2024. The company believes that its existing cash, cash equivalents, and marketable securities as of June 30, 2025 and anticipated expenditures will enable funding of operating expenses and capital expenditure requirements at least into June 2026.

Research and Development Expenses: R&D expenses were approximately $3.1 million for the quarter ended June 30, 2025, compared to approximately $3.9 million for the quarter ended June 30, 2024, reflecting continued disciplined cost management while advancing multiple clinical programs.

General and Administrative Expenses: G&A expenses were approximately $1.6 million for the quarter ended June 30, 2025, compared to approximately $1.5 million for the quarter ended June 30, 2024.

Net Loss: Net loss was approximately $4.33 million (or $0.40 per share) for the quarter ended June 30, 2025, compared to a net loss of approximately $4.96 million (or $0.46 per share) for the quarter ended June 30, 2024.

Capitalization: As of June 30, 2025, the Company had 10,784,725 shares of common stock outstanding, and options to purchase 1,239,766 shares of common stock at a weighted average exercise price of $5.72 per share were outstanding. There were no outstanding warrants as of June 30, 2025.

Quarterly Earnings Calls:

Lantern has determined not to host a quarterly earnings call at the present time given the concentration of resources required for a live video based webinar style call. In addition to quarterly press releases with earnings information, and more frequent updates regarding the progress of our portfolio and platform, we plan to focus our resources on other distribution channels that we believe will be more effective in conveying information to stockholders, including webinars, digital media resources and broader social media channels.

Lantern Pharma Inc. and Subsidiaries
Condensed Consolidated Balance Sheets

	June 30, 2025 (Unaudited)	December 31, 2024
CURRENT ASSETS		
Cash and cash equivalents	$ 6,061,408	$ 7,511,079
Marketable securities	9,840,366	16,501,984
Prepaid expenses & other current assets	1,299,016	1,234,566
Total current assets	17,200,790	25,247,629
Property and equipment, net	39,524	47,440
Operating lease right-of-use assets	143,240	239,985
Other assets	36,738	36,738
TOTAL ASSETS	$ 17,420,292	$ 25,571,792
CURRENT LIABILITIES		
Accounts payable and accrued expenses	$ 4,752,848	$ 4,140,361
Operating lease liabilities, current	131,515	190,814
Total current liabilities	4,884,363	4,331,175
Operating lease liabilities, net of current portion	13,524	52,843
TOTAL LIABILITIES	4,897,887	4,384,018
COMMITMENTS AND CONTINGENCIES (NOTE 4)		
STOCKHOLDERS' EQUITY		

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Preferred Stock (1,000,000 authorized at June 30, 2025 and December 31, 2024; $.0001 par value) (Zero shares issued and outstanding at June 30, 2025 and December 31, 2024)	-	-
Common Stock (25,000,000 authorized at June 30, 2025 and December 31, 2024; $.0001 par value) (10,784,725 shares issued and outstanding at June 30, 2025 and December 31, 2024)	1,078	1,078
Additional paid-in capital	97,366,699	97,058,323
Accumulated other comprehensive income	48,043	153,990
Accumulated deficit	(84,893,415)	(76,025,617)
Total stockholders' equity	12,522,405	21,187,774
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 17,420,292	$ 25,571,792

Lantern Pharma Inc. and Subsidiaries
Condensed Consolidated Statements of Operations (Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
Operating expenses:				
General and administrative	$ 1,583,521	$ 1,519,724	$ 3,093,598	$ 3,000,939
Research and development	3,068,379	3,888,737	6,332,334	8,139,523
Total operating expenses	4,651,900	5,408,461	9,425,932	11,140,462
Loss from operations	(4,651,900)	(5,408,461)	(9,425,932)	(11,140,462)
Interest income	114,745	188,660	264,535	389,610
Other income, net	206,140	260,295	293,599	350,536
NET LOSS	$ (4,331,015)	$ (4,959,506)	$ (8,867,798)	$ (10,400,316)
Net loss per share of common shares, basic and diluted	$ (0.40)	$ (0.46)	$ (0.82)	$ (0.97)
Weighted-average number of common shares outstanding, basic and diluted	10,784,725	10,758,805	10,784,725	10,750,801

About Lantern Pharma

Lantern Pharma (NASDAQ: LTRN) is an AI company transforming the cost, pace, and timeline of oncology drug discovery and development. Our proprietary AI and machine learning (ML) platform, RADR®, leverages over 200 billion oncology-focused data points and a library of 200+ advanced ML algorithms to help solve billion-dollar, real-world problems in oncology drug development. By harnessing the power of AI and with input from world-class scientific advisors and collaborators, we have accelerated the development of our growing pipeline of drug candidates that span multiple cancer indications, including both solid tumors and blood cancers and an antibody-drug conjugate (ADC) program. On average, our newly developed drug programs have been advanced from initial AI insights to first-in-human clinical trials in 2-3 years and at approximately $1.0 - 2.5 million per program.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements include, among other things, statements relating to: future events or our future financial performance; the potential advantages of our RADR® platform in identifying drug candidates and patient populations that are likely to respond to a drug candidate; our strategic plans to advance the development of our drug candidates and antibody drug conjugate (ADC) development program; estimates regarding the development timing for our drug candidates and ADC development program; expectations and estimates regarding clinical trial timing and patient enrollment; our research and development efforts of our internal drug discovery programs and the utilization of

our RADR® platform to streamline the drug development process; our intention to leverage artificial intelligence, machine learning and genomic data to streamline and transform the pace, risk and cost of oncology drug discovery and development and to identify patient populations that would likely respond to a drug candidate; estimates regarding patient populations, potential markets and potential market sizes; sales estimates for our drug candidates and our plans to discover and develop drug candidates and to maximize their commercial potential by advancing such drug candidates ourselves or in collaboration with others. Any statements that are not statements of historical fact (including, without limitation, statements that use words such as "anticipate," "believe," "contemplate," "could," "estimate," "expect," "intend," "seek," "may," "might," "plan," "potential," "predict," "project," "target," "model," "objective," "aim," "upcoming," "should," "will," "would," or the negative of these words or other similar expressions) should be considered forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated by the forward-looking statements, such as (i) the risk that we may not be able to secure sufficient future funding when needed and as required to advance and support our existing and planned clinical trials and operations, (ii) the risk that observations in preclinical studies and early or preliminary observations in clinical studies do not ensure that later observations, studies and development will be consistent or successful, (iii) the risk that our research and the research of our collaborators may not be successful, (iv) the risk that we may not be successful in licensing potential candidates or in completing potential partnerships and collaborations, (v) the risk that none of our product candidates has received FDA marketing approval, and we may not be able to successfully initiate, conduct, or conclude clinical testing for or obtain marketing approval for our product candidates, (vi) the risk that no drug product based on our proprietary RADR® AI platform has received FDA marketing approval or otherwise been incorporated into a commercial product, and (vii) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2024, filed with the Securities and Exchange Commission on March 27, 2025. You may access our Annual Report on Form 10-K for the year ended December 31, 2024 under the investor SEC filings tab of our website at **www.lanternpharma.com** or on the SEC's website at **www.sec.gov**. Given these risks and uncertainties, we can give no assurances that our forward-looking statements will prove to be accurate, or that any other results or events projected or contemplated by our forward-looking statements will in fact occur, and we caution investors not to place undue reliance on these statements. All forward-looking statements in this press release represent our judgment as of the date hereof, and, except as otherwise required by law, we disclaim any obligation to update any forward-looking statements to conform the statement to actual results or changes in our expectations.

Lantern Pharma Disclosure Channels to Disseminate Information:

Lantern Pharma's investors and others should note that we announce material information to the public about our company and its technologies, clinical developments, licensing matters and other matters through a variety of means, including Lantern Pharma's website, press releases, SEC filings, digital newsletters, and social media, in order to achieve broad, non-exclusionary distribution of information to the public. We encourage our investors and

others to review the information we make public in the locations above as such information could be deemed to be material information. Please note that this list may be updated from time to time.

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Source: Lantern Pharma Inc.