

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT  
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): July 29, 2021

**Lantern Pharma Inc.**

(Exact name of registrant as specified in its charter)

<b>Delaware</b> (State or Other Jurisdiction of Incorporation)	<b>001-39318</b> (Commission File Number)	<b>46-3973463</b> (IRS Employer Identification No.)
<b>1920 McKinney Avenue, 7th Floor Dallas, Texas</b> (Address of Principal Executive Offices)		<b>75201</b> (Zip Code)
	(972) 277-1136 (Registrant's telephone number, including area code)	

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)  
 Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)  
 Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))  
 Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act: Common Stock

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$0.0001 par value	LTRN	The Nasdaq Stock Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

**Item 2.02 Results of Operations and Financial Condition.**

On July 29, 2021, Lantern Pharma Inc. (the "Company") will issue a press release announcing its financial results for the second quarter ended June 30, 2021. A copy of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

The information in this Item 2.02, including Exhibit 99.1 hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filings under the Securities Act of 1933, as amended, or the Exchange Act, regardless of any general incorporation language in such filings, unless expressly incorporated by specific reference in such filing.

**Item 7.01 Regulation FD Disclosure.**

On July 29, 2021, the Company will utilize a presentation to assist with the Company's discussions during a conference call and live webcast hosted by the Company to discuss financial and operating results for the second quarter ended June 30, 2021. A copy of the presentation is furnished as Exhibit 99.2 to this Current Report on Form 8-K and is incorporated herein by reference.

The information in this Item 7.01, including Exhibit 99.2 hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filings under the Securities Act of 1933, as amended, or the Exchange Act, regardless of any general incorporation language in such filings, unless expressly incorporated by specific reference in such filing.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

Exhibit No.	Exhibit Description
99.1	<a href="#">Press Release dated July 29, 2021 announcing financial results for quarter ended June 30, 2021.</a>
99.2	<a href="#">Presentation relating to July 29, 2021 conference call and live webcast to discuss financial and operating results for quarter ended June 30, 2021.</a>

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Lantern Pharma Inc.,  
A Delaware Corporation

Dated: July 29, 2021

By: /s/ David R. Margrave  
David R. Margrave, Chief Financial Officer



### Lantern Pharma Reports Second Quarter 2021 Financial Results and Operational Highlights

- Obtained positive preclinical data in pancreatic cancer showing a significant reduction, averaging 93%, in tumor volume in in-vivo animal models from research collaboration with Fox Chase Cancer Center
- Preparing clinical trial site selection and finalization of initial GMP drug material batch during Q3 for LP-300 phase 2 clinical trial in non-small cell lung cancer
- Validated LP-184's potential as a synthetic lethal agent in HRD (homologous recombination deficient) and NERD (nucleotide excision repair deficient) cancers
- Initiated targeted validation of new molecule, LP-284, in lymphomas
- Strengthened intellectual property portfolio with filing of 11 new patent applications, including 2 for the RADR platform
- RADR® A.I. platform continues rapid development with additional focus on hematological cancers and expansion of machine learning functionality
- \$79.6 million in cash, cash equivalents and marketable securities as of June 30, 2021
- Conference call scheduled for 4:30 p.m. ET today

DALLAS, TX - July 29, 2021 - Lantern Pharma Inc. (NASDAQ: LTRN) ("Lantern"), a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") platform to transform oncology drug discovery and development today announced financial results for the second quarter ended June 30, 2021.

"We are committed to bringing our pipeline of targeted cancer therapies to patients faster by utilizing our RADR® A.I. platform and making continual advances in our portfolio," stated Panna Sharma, President and CEO of Lantern Pharma. "This past quarter we made significant advances in our LP-184 program in pancreatic cancer and in validating the role this potent molecule can play in being synthetically lethal in cancers with DNA repair deficiencies. This opens up opportunities for LP-184 in several additional cancers, such as bladder and ovarian, and as a potential combination agent with existing PARP inhibitors."

"With the recently announced reacquisition of LP-100 earlier this week, we will use insights from the LP-100 trial and investigators to assess further enrollment of the Phase 2 trial in Denmark and initiation of other studies where LP-100 can play a role as a potential cancer therapy. We believe this molecule has the potential to address a market of nearly \$200 million in the U.S. and approximately \$700 million globally."

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Lantern is developing four drug candidates and an ADC program across eight disclosed indications, including:

- **LP-100** (Irofulven), in a Phase 2 trial for the treatment of metastatic castration resistant prostate cancer (mCRPC), which showed median overall survival (mOS) of 12.5 months in the initial 9 patients.
- **LP-300**, a small molecule drug-candidate that is preparing to enter a Phase 2 trial as a combination therapy in never-smokers with non-small cell lung cancer (NSCLC).
- **LP-184**, a small molecule DNA damaging candidate in preclinical development for genomically-defined pancreatic and bladder cancers, and potentially other cancers that overexpress PTGR1.
- **LP-184**, additionally in brain cancers such as: glioblastoma multiforme (GBM), and atypical teratoid rhabdoid tumors (ATRT) and other undisclosed brain tumors.
- **LP-284**, an alkylating agent that is preferentially active in hematologic cancers and works by blocking transcription of translocated fusion proteins required for survival of such cancers.
- **LP-A18** - an antibody drug conjugate (ADC) program that is in late stage discovery to optimize conjugation among known and commercially available antibodies, selected based on insights from RADR, with LP-184 or similar high-potency small molecules.

### Second Quarter 2021 Financial Highlights

- **Balance Sheet:** Cash, cash equivalents, and marketable securities were \$79.6 million as of June 30, 2021, compared to \$19.2 million as of December 31, 2020. The increase reflects \$69.0 million of gross proceeds from our January 20, 2021 follow-on public offering.
- **R&D Expenses:** Research and development expenses were \$1,164,892 for the quarter ended June 30, 2021, compared to \$157,023 for the quarter ended June 30, 2020. The increase was primarily attributable to increases in manufacturing related expenses, research study expenses, research team expenses, and research and development related stock option compensation expense of \$115,761 (a non-cash item) for the quarter ended June 30, 2021.
- **G&A Expenses:** General and administrative expenses were \$1,314,201 for the quarter ended June 30, 2021, compared to \$676,399 for the quarter ended June 30, 2020. The increase was primarily attributable to expenses associated with operating as a public company and general and administrative related stock option compensation expense of \$129,923 (a non-cash item) for the quarter ended June 30, 2021.

- **Net Loss:** Net loss was \$2,316,481 for the quarter ended June 30, 2021, or \$0.21 per share, compared to a net loss of \$833,422 for the quarter ended June 30, 2020, or \$0.31 per share. The net loss for the quarter ended June 30, 2021 included \$47,889 in interest income and \$114,723 in other income, net, primarily attributable to a gain on loan forgiveness of Lantern's PPP loan. The net losses include non-cash expenses related to employee stock options of \$245,684 for the quarter ended June 30, 2021.

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Mr. Sharma continued, "We remain steadfast in building Lantern into a best-of-breed biopharmaceutical company that blends insights from our RADR<sup>®</sup> A.I. platform with the experience and expertise of our research team and a roster of collaborations with world-renowned cancer research institutions. Machine learning enabled identification and validation of molecular drivers of cancer provides the potential for more targeted and more effective oncology therapies. We are confident that our portfolio of genetically targeted oncology drug candidates can deliver significant enduring value for our shareholders."

#### Expected Upcoming Milestones

- Clinical trial site selection for LP-300 Phase 2 trial aimed at never-smokers with NSCLC.
- Data from first phase of the collaboration in GBM (Glioblastoma multiforme) with The Brain Cancer Program at Johns Hopkins University with LP-184.
- Preclinical data from ATRT (atypical teratoid rhabdoid tumors) studies -- an ultra rare brain cancer -- also in collaboration with Johns Hopkins University with LP-184.
- Additional details regarding the research collaboration in pancreatic cancer with Fox Chase Cancer Center, including data regarding efficacy in comparison with other targeted therapeutics.
- Additional detailed data from the existing Phase 2 clinical trial with LP-100 that showed a median overall survival of 12.5 months for the initial 9 metastatic, castration-resistant prostate cancer patients.
- Collaborations with leading research and academic centers and companies that advance our platform and our portfolio.
- Data on the initial targeted indications for LP-284.
- Details on the designs, efficacy and disease targets of the ADC program.

#### Conference Call

- Toll-free US and Canada: 800-791-4813 – conference ID# 20284
- International: 785-424-1102 – conference ID# 20284
- Replay Number: 1-800-839-5642, no passcode -- available through 11:59 pm ET on August 29, 2021.

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#### Webcast

- Live webcast will be available at: Lantern Pharma 2Q21 Earnings Call Webcast
- The webcast will be archived on <https://ir.lanternpharma.com> through 11:59 pm ET on August 29, 2021.

#### About Lantern Pharma

Lantern Pharma (LTRN) is a clinical-stage oncology-focused biopharmaceutical company leveraging its proprietary RADR<sup>®</sup> A.I. platform and machine learning to discover biomarker signatures that identify patients most likely to respond to its pipeline of targeted therapeutics. Lantern is currently developing four drug candidates and an ADC program across eight disclosed tumor targets, including two phase 2 programs. By targeting drugs to patients whose genomic profile identifies them as having the highest probability of benefiting from the drug, Lantern's approach represents the potential to deliver best-in-class outcomes. More information is available at: [www.lanternpharma.com](http://www.lanternpharma.com) and Twitter @lanternpharma.

#### Contact

Panna Sharma, CEO  
IR@lanternpharma.com  
(628)777-3339

#### 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<sup>®</sup> 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; our research and development efforts of our internal drug discovery programs and the utilization of our RADR<sup>®</sup> 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 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," "objective," "aim," "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 impact of the COVID-19 pandemic, (ii) 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, (iii) the risk that no drug product based on our proprietary RADR A.I. platform has received FDA marketing approval or otherwise been incorporated into a commercial product, and (iv) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission on March 10, 2021. You may access our Annual Report on Form 10-K for the year ended December 31, 2020 under the investor SEC filings tab of our website at [www.lanternpharma.com](http://www.lanternpharma.com) or on the SEC's website at [www.sec.gov](http://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.

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**Lantern Pharma Inc. and Subsidiary  
Condensed Consolidated Balance Sheets**

	<b>June 30, 2021</b>	<b>December 31, 2020</b>
	<b>(Unaudited)</b>	
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 61,354,117	\$ 19,229,232
Marketable securities	18,234,540	-
Prepaid expenses and other current assets	2,542,426	1,007,690
<b>Total current assets</b>	<b>82,131,083</b>	<b>20,236,922</b>
Property and equipment, net	30,598	21,507
Deferred offering costs	-	101,205
Operating lease right-of-use assets	252,503	-
Other assets	17,889	-
<b>TOTAL ASSETS</b>	<b>\$ 82,432,073</b>	<b>\$ 20,359,634</b>
<b>CURRENT LIABILITIES</b>		
Accounts payable and accrued expenses	\$ 1,093,787	\$ 552,339
Insurance payable	1,448,419	-
Operating lease liabilities, current	145,898	-
<b>Total current liabilities</b>	<b>2,688,104</b>	<b>552,339</b>
Operating lease liabilities, net of current portion	130,705	-
PPP loan payable	-	108,500
<b>TOTAL LIABILITIES</b>	<b>2,818,809</b>	<b>660,839</b>
<b>COMMITMENTS AND CONTINGENCIES</b>		
<b>STOCKHOLDERS' EQUITY</b>		
Preferred Stock - Par Value (1,000,000 authorized at June 30, 2021 and December 31, 2020; \$.0001 par value) (Zero shares issued and outstanding at June 30, 2021 and December 31, 2020)	-	-
Common Stock - Par Value (25,000,000 authorized at June 30, 2021 and December 31, 2020; \$.0001 par value) (11,184,039 shares issued and outstanding at June 30, 2021; 6,220,927 shares issued and outstanding at December 31, 2020)	1,118	622
Additional paid-in capital	97,088,382	32,358,068
Accumulated deficit	(17,428,671)	(12,659,895)
Accumulated other comprehensive loss	(47,565)	-
<b>Total stockholders' equity</b>	<b>79,613,264</b>	<b>19,698,795</b>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<b>\$ 82,432,073</b>	<b>\$ 20,359,634</b>



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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Operating expenses:				
General and administrative	1,314,201	676,399	2,487,459	1,016,571
Research and development	1,164,892	157,023	2,443,929	294,127
Total operating expenses	2,479,093	833,422	4,931,388	1,310,698
Loss from operations	(2,479,093)	(833,422)	(4,931,388)	(1,310,698)
Interest income	47,889	-	47,889	-
Other income, net	114,723	-	114,723	-
<b>NET LOSS</b>	<b>\$ (2,316,481)</b>	<b>\$ (833,422)</b>	<b>\$ (4,768,776)</b>	<b>\$ (1,310,698)</b>
Net loss per share of common shares, basic and diluted	\$ (0.21)	\$ (0.31)	\$ (0.45)	\$ (0.55)
Weighted-average number of common shares outstanding, basic and diluted	11,181,504	2,719,198	10,631,121	2,370,082

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**Lantern Pharma Inc. and Subsidiary**  
**Condensed Consolidated Statements of Comprehensive Loss (Unaudited)**

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
<b>NET LOSS</b>	<b>\$ (2,316,481)</b>	<b>\$ (833,422)</b>	<b>\$ (4,768,776)</b>	<b>\$ (1,310,698)</b>
Other comprehensive loss, net of tax				
Unrealized loss on available-for-sale securities, net of tax	(47,565)	-	(47,565)	-
Other comprehensive loss, net of tax	(47,565)	-	(47,565)	-
<b>Comprehensive loss</b>	<b>\$ (2,364,046)</b>	<b>\$ (833,422)</b>	<b>\$ (4,816,341)</b>	<b>\$ (1,310,698)</b>

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## Second Quarter 2021 Operating & Financial Results Conference Call

July 29, 2021  
4:30 PM Eastern



<https://ir.lanternpharma.com/>



### FORWARD-LOOKING STATEMENTS

This presentation 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<sup>®</sup> 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; our research and development efforts of our internal drug discovery programs and the utilization of our RADR<sup>®</sup> 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 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," "objective," "aim," "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 impact of the COVID-19 pandemic, (ii) the risk that we may not be able to successfully initiate, conduct, or conclude clinical testing for or obtain marketing approval for our product candidates; (iii) the risk that no drug product based on our proprietary RADR A.I. platform has received FDA marketing approval or otherwise been incorporated into a commercial product, and (iv) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission on March 10, 2021. You may access our Annual Report on Form 10-K for the year ended December 31, 2020 under the investor SEC filings tab of our website at [www.lanternpharma.com](http://www.lanternpharma.com) or on the SEC's website at [www.sec.gov](http://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 presentation 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.



## Second Quarter 2021 Operating & Financial Results Conference Call

July 29, 2021  
4:30 PM Eastern

### KEY TOPICS

1. Business Overview & Background  
Panna Sharma, CEO
2. Financial Results & Highlights  
David Margrave, CFO
3. Business Updates  
Panna Sharma, CEO
4. Milestones  
Panna Sharma, CEO
5. Q&A Session  
Panna Sharma, CEO

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Lantern leverages A.I. to rescue and develop cancer therapies and has the potential to transform the cost, risk and timeline of drug development



Failed or Abandoned  
Drug Assets & New Drug  
Development

- Drugs that have failed clinical trials or have been abandoned by pharma and biotech companies in late stage trials
- Development of new compounds in drug classes that leverage our AI platform



RADR®

- Big data (genomic, clinical, response) assembled and analyzed
- Patient subgroups identified through machine learning and artificial intelligence
- Mechanisms of action clarified
- Potential combinations identified
- Potential for faster and more efficient path to relaunching in the clinical trial setting



Responders



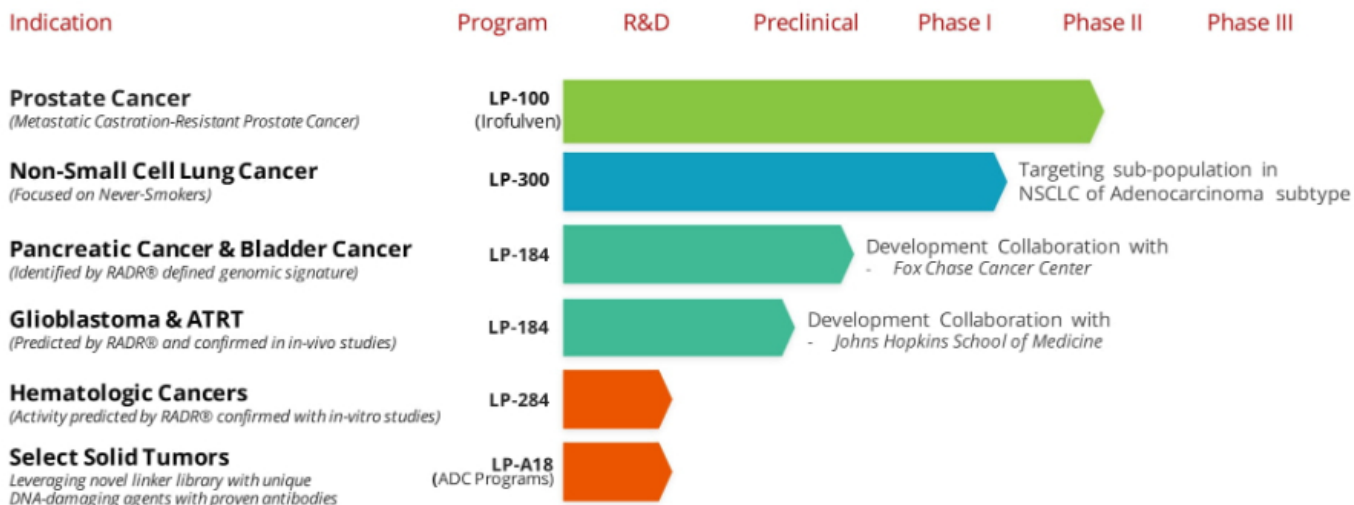
Non-Responders

- Patient stratification based on A.I. enabled genomic biomarker discovery
- New patient populations for failed or abandoned drugs based on validated biomarker signatures
- Aimed to shorten time to market
- Designed to reduce risk in development
- Potential for orphan or fast track status
- New Chemical Entities designed and filed

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## Lantern's Unique & Rapidly Developing Pipeline



**Accelerated Development by Leveraging the RADR® A.I. platform**  
Over 80+ issued patents and pending applications across 14 patent families

## Highlights & Key Milestones Attained During 2Q'21



- Announced positive preclinical data in pancreatic cancer from in-vivo animal models where tumor shrinkage was observed as being an average of 93% over 8 weeks
- Initiated development of LP-184 in DNA damage repair deficient tumors, including bladder where nearly 40% of cancers have DNA repair gene mutations
- Progressed on validating specific blood cancers in lymphoma that are highly sensitive to LP-284
- Progressed clinical trial site selection and final manufacturing for LP-300 Phase 2 trial
- Filed 11 new patent applications, including 2 for the RADR A.I. Platform
- Furthered development of RADR data-lake with additional focus on blood cancers and DNA damage repair gene mutated cancers



## Summary Results of Operations

	Three Months Ended June 30, (Unaudited)		Six Months Ended June 30, (Unaudited)	
	2021	2020	2021	2020
<b>Operating expenses:</b>				
General and administrative	1,314,201	676,399	2,487,459	1,016,571
Research and development	1,164,892	157,023	2,443,929	294,127
Total operating expenses	2,479,093	833,422	4,931,388	1,310,698
<b>Loss from operations</b>	<b>(2,479,093)</b>	<b>(833,422)</b>	<b>(4,931,388)</b>	<b>(1,310,698)</b>
Interest income	47,889	-	47,889	-
Other income, net	114,723	-	114,723	-
<b>NET LOSS</b>	<b>\$ (2,316,481)</b>	<b>\$ (833,422)</b>	<b>\$ (4,768,776)</b>	<b>\$ (1,310,698)</b>
<i>Net loss per common share, basic and diluted</i>	\$ (0.21)	\$ (0.31)	\$ (0.45)	\$ (0.55)
<i>Weighted Avg. Common Shares Outstanding - Basic and Diluted</i>	11,181,504	2,719,198	10,631,121	2,370,082

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## Balance Sheet Highlights & Summary

	6/30/2021	12/31/2020
<b>Cash and Marketable Securities</b>	<b>\$ 79,588,657</b>	<b>\$ 19,229,232</b>
Prepaid Expenses & Other Current Assets	\$ 2,542,426	\$ 1,007,690
<b>Total Assets</b>	<b>\$ 82,432,073</b>	<b>\$ 20,359,634</b>
<b>Total Liabilities</b>	<b>\$ 2,818,809</b>	<b>\$ 660,839</b>
<b>Total Stockholders' Equity</b>	<b>\$ 79,613,264</b>	<b>\$ 19,698,795</b>

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June 30, 2021

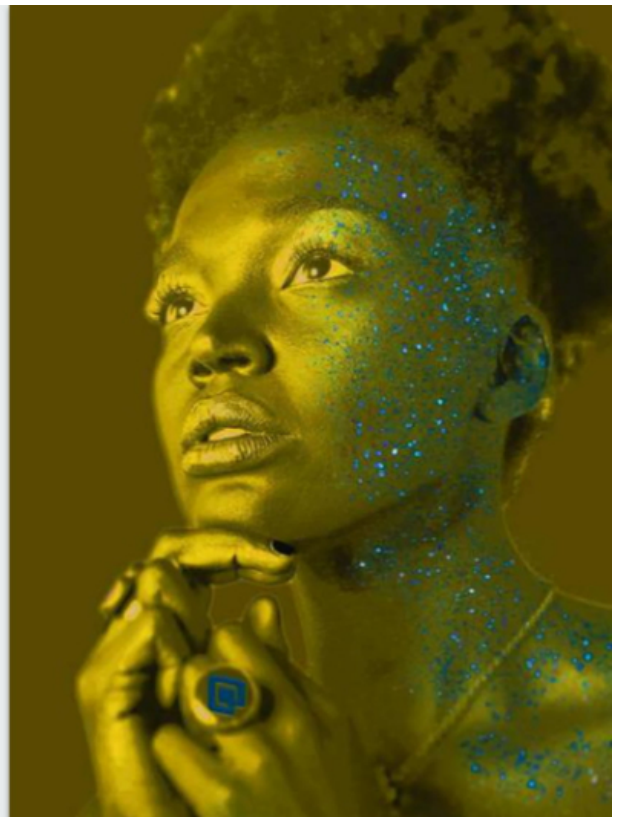
LANTERN PHARMA INC. (LTRN)	
Common Shares Outstanding	11,184,039
Warrants	302,036
Options (Employees, Management and Directors)	823,826
<b>Fully Diluted Shares Outstanding</b>	<b>12,309,901</b>

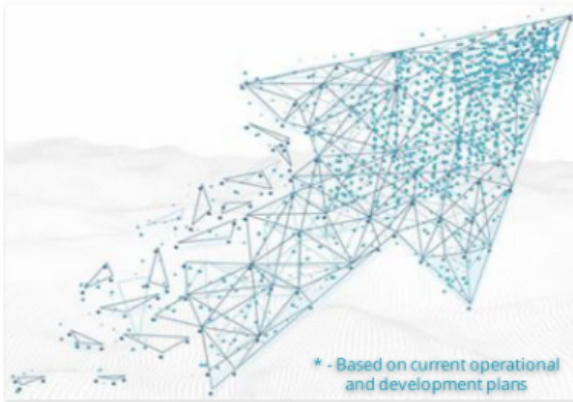
## Entering "The Golden Age of A.I. in Medicine"

### 10 Mega-Trends Setting The Stage for A.I. Led Transformation in Drug Development & Medicine

- ◆ Large-scale, relevant and readily available data-sets
- ◆ Methods, technologies and algorithms that are massively scalable
- ◆ Computing, storage and transmission continue exponential advances
- ◆ Rapid rise of global talent and collaboration networks
- ◆ Tremendous increase in quality of biological data and methods
- ◆ Rise of sequencing as a highly available, on-demand, low-cost service
- ◆ Consumers willing to share personal data in near-time
- ◆ Industries that have an increasing impetus to transform
- ◆ New generation of investors demanding novel value creation
- ◆ Executives and entrepreneurs rewarded for rapid change

Lantern is at the forefront of this model of A.I. driven transformation in the area of personalized oncology drug development to drive value for cancer patients and our investors.





\* - Based on current operational and development plans

10 Million > 125 Million > 1 Billion > 8 Billion\* > 15 Billion\* >  
2018 2019 2020 2021 2022

**Curated Data Sources Include:**

- Historical Trials
- Proprietary Internal Studies
- Studies & Collaborations w/ Partners
- Active Clinical Trials
- Trials in adjacent drug classes and tumors
- Proprietary Sequencing Campaigns
- Proprietary Drug Sensitivity Studies
- Open Sources from Publications and Research
- Clinical Outcome & Lab Data From Select Groups

### The RADR® Platform Enables...



- Rapid identification of potential compounds to rescue and develop
- Improved and more nuanced understanding of responder groups, and non-responder groups based on biological networks
- Feedback for potential mechanisms to be exploited in target-based development activity

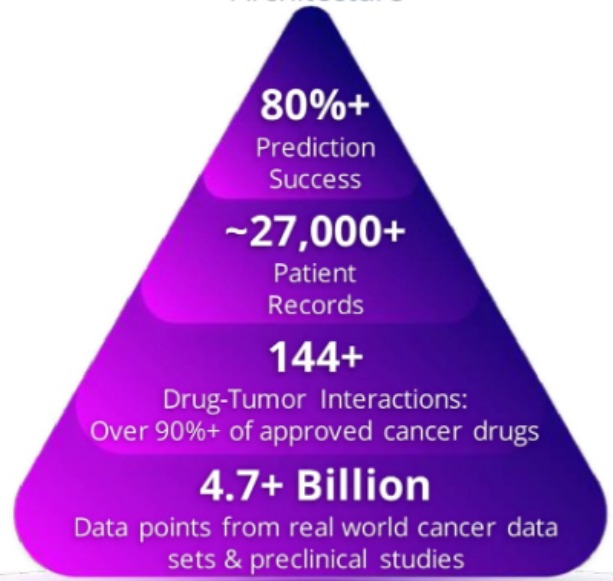


- More rapid entry into clinical trials and patient subgroups
- Robust companion diagnostics that can be used to accelerate trials and commercial traction
- Potential for improved patient outcomes with drastically reduced costs and economic burden

RADR® rapidly identifies genetic & biomarker signatures for precision oncology drug development, clinical response prediction and CDx (companion diagnostic) enablement.

We continue to invest in the platform's functionality, scale, and volume of data.

### RADR® Platform Key Features & Architecture



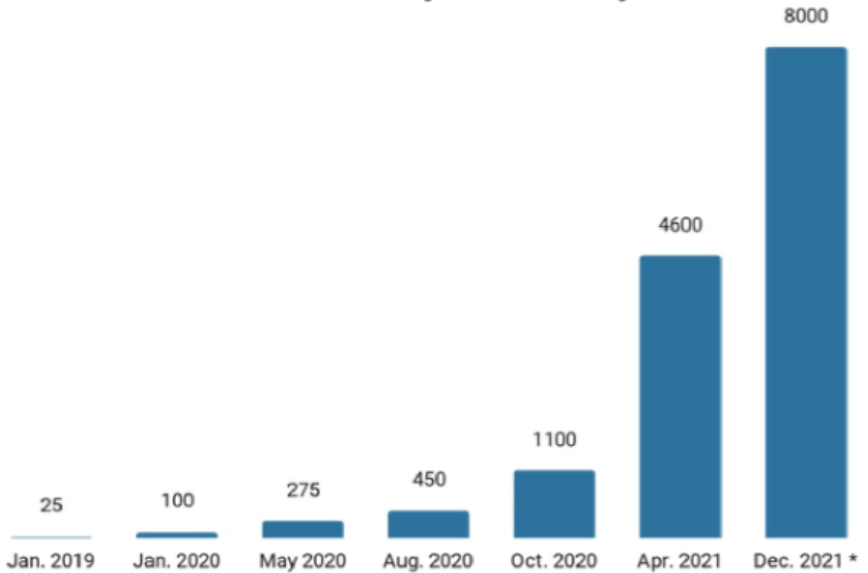
RADR® Platform Continues to Grow in Volume and Functionality



Growth in Data Drives Growth in Capabilities:  
16.7x Growth Over Last 12 Months (July 2020 to July 2021)



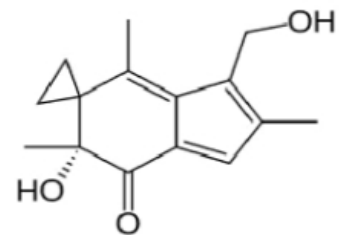
- Complete transcriptome data
- RNA gene expression data
- Drug sensitivity data
- DNA copy number & mutation data
- Clinical stage of tumor/cancer
- Histology of tumor
- Patient age and sex
- Patient race or ethnicity
- Prior treatment history and response
- Methylation data



\* Expected amount of data based on development plan and pipeline

Reacquired Rights to LP-100 (Irofulven) & Phase 2 Clinical Trial in Metastatic Prostate Cancer + Global Development & Commercialization of Irofulven (LP-100) from Allarity Therapeutics A/S

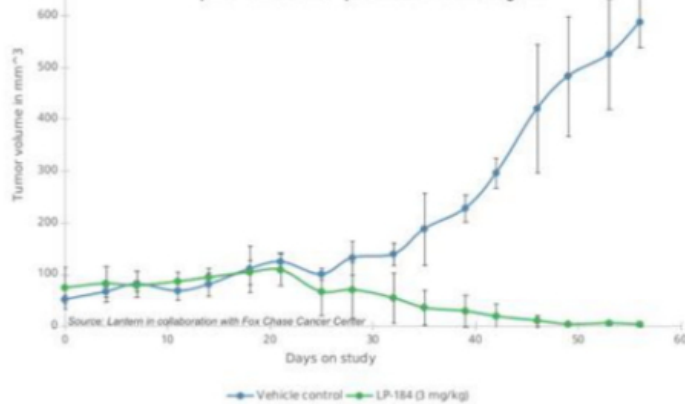
- LP-100, Irofulven, is in an existing phase 2 clinical trial for patients with mCRPC (metastatic, castration-resistant prostate cancer) in Denmark
- 9 patients (out of a target enrollment of 27) have been treated based on meeting criteria established by Allarity's DRP (Drug Response Predictor) companion diagnostic technology
- Median overall survival (mOS) for the initial group of 9 patients was 12.5 months, which is an improvement over other similar fourth-line treatment regimens for mCRPC
- Annually, over \$200 million USD is spent in the US and nearly \$700 million globally, for treatment of late-stage metastatic prostate cancer
- Agreement terms include a payment of US \$1.0 million upfront and an additional US \$1.0 million over 24 months based on meeting development milestones, along with payments that can total to an additional \$16 million based on regulatory filings and commercialization



Positive Preclinical Data in Pancreatic Cancer with drug candidate LP-184

LP-184 is a next generation DNA-damaging agent for pancreatic cancer in a research collaboration with Fox Chase Cancer Center

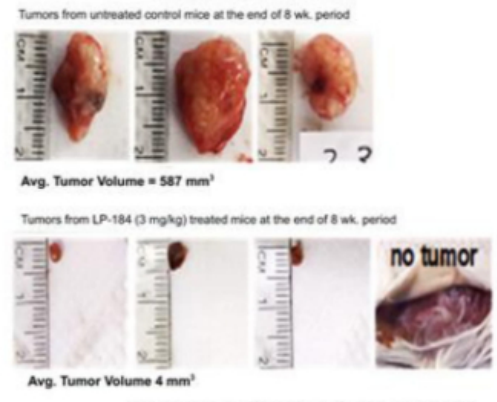
LP-184 delivered Complete Tumor Regression in mice implanted with a pancreatic cancer patient-derived xenograft



Tumor growth inhibition of 109% was observed with LP-184 treatment relative to control.

LP-184 Delivered Complete Tumor Regression

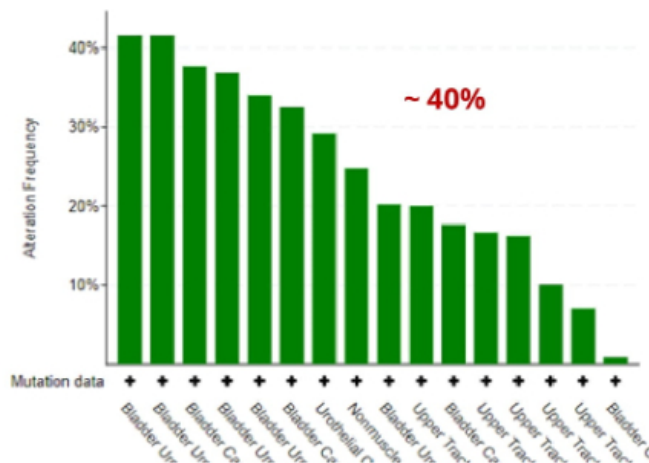
LP-184 demonstrated significant tumor shrinkage (146x) in *in-vivo* mice PDX models



Preclinical data demonstrated that LP-184 had significant & rapid pancreatic tumor shrinkage, by over 90%, in *in-vivo* mouse models in 8 weeks.

Expanding LP-184 in additional genomically-targeted indications – Large scale data mining suggests occurrence of NER pathway mutations in a significant proportion of *Bladder Cancers*

Urothelial bladder cancers & NER pathway mutations



Estimated Annual Cases

573,278- Global  
83,730 - USA  
@40% = 33,492 cases in USA



## Key Value Building Objectives



Foundational Year  
Advance Platform  
Prepare Trial Launches  
Prioritize Additional Compounds

2021

- **LP-300** - Initiate clinical trial site selection for NSCLC Phase 2 clinical trial aimed at never smokers
- **LP-184** - Share data and details from GBM & ATRT research programs with Johns Hopkins
- LP-284 - Share initial indication details and results from validation studies
- **LP-100** - Provide details from initial nine enrolled patients and future potential expansion
- New collaborations with leading institutions
- RADR® A.I. platform to over 8 billion datapoints
- IND-Enabling studies for LP184 in solid tumors
- ADC - Share design and targets for initial ADC program



Multiple Streams of Value Creation  
Launch Multiple Precision Trials  
Leverage Platform for Pharma Partners  
Secure Additional Compounds

2022

- Launch Ph. 1 ADC program in solid tumors
- Launch Ph. 1 clinical trial for LP-184 in solid tumors
- Launch Ph. 1/2 clinical trial for LP-184 in GBM
- Progress LP-184 in ATRT towards Ph. 1/2 clinical trial
- Explore potential combinations for LP-184 & LP-300 with other existing approved drugs (inc. I-O agents)
- Strategically grow RADR® A.I. platform to 15 billion datapoints
- Licensing and partnership opportunities

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## Q & A

LTRN Operating & Financial Results Call  
July 29, 2021

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