LANTERN PHARMA INC.
1920 McKinney Avenue, 7th Floor
Dallas, Texas 75201

SUPPLEMENT TO PROXY STATEMENT FOR 2026 ANNUAL MEETING OF STOCKHOLDERS To Be Held On December 1, 2026

This proxy statement supplement (this "Proxy Supplement"), dated November 20, 2026, supplements the definitive proxy statement on Schedule 14A (the "Proxy Statement") of Lantern Pharma Inc. (the "Company"), dated October 19, 2026 and made available to you in connection with the solicitation of proxies by our Board for our 2026 Annual Meeting of Stockholders to be held virtually on December 1, 2026 at 11:00 a.m., Eastern Time, and at any adjournment thereof (the "Annual Meeting"). Other than as set forth in this Proxy Supplement, no changes have been made to the Proxy Statement.

You should read the entire Proxy Statement, this Proxy Supplement and any additional proxy materials carefully before voting your shares. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in the Proxy Statement.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting

The Proxy Statement, this Proxy Supplement, the Proxy Card and our Annual Report are available at www.proxyvote.com.

Supplemental Proxy Statement Disclosures

The following disclosure amends, and should be read as an addition to, the disclosures in "Proposal 1 – Election of Directors – Information about Director Nominees" and "Corporate Governance" contained in the Proxy Statement. Except as otherwise set forth below, the information set forth in the Proxy Statement remains unchanged.

On November 15, 2026, Panna Sharma resigned as President and Chief Executive Officer of the Company, effective as of November 15, 2026. Mr. Sharma also resigned from the Company's board of directors ("Board") effective as of November 15, 2026.

Effective November 16, 2026, the Board has appointed David Margrave, current Chief Financial Officer of the Company, to serve as Interim Chief Executive Officer until the Company appoints a permanent Chief Executive Officer. The Board intends to promptly commence a search for a successor.

In connection with Mr. Sharma's resignation, the Board reduced the number of directors that constitutes the full Board from six to five directors effective as of November 16, 2026 and withdrew the nomination of Mr. Sharma for election as a director at the Annual Meeting. Other than Mr. Sharma, the director-nominees named in the Proxy Statement will stand for election at the Annual Meeting. Notwithstanding Mr. Sharma's resignation and withdrawal as a director-nominee, the Company's stockholders eligible to vote at the Annual Meeting may continue to use the form of proxy card included with the distribution of the Proxy Statement to vote their shares as to the Board's remaining nominees and the other matters being voted on at the Annual Meeting. Marking "For All" or "For All Except" on Proposal 1 on the proxy card will result in votes for each of the Board's remaining nominees as to whom authority is not withheld (but not for Mr. Sharma).

All proxy cards and voting instruction forms previously distributed by or on behalf of the Company remain valid for use at the Annual Meeting. If you have already submitted a proxy to vote your shares, either by returning a completed proxy card or voting instruction form or by Internet or telephone voting, you do not need to re-submit your proxy unless you wish to change your vote. Proxy votes already returned by stockholders will remain valid and will be voted at the Annual Meeting unless revoked, other than with respect to Mr. Sharma. If you previously submitted a proxy marking "For All" or "For All Except" on Proposal 1, then that proxy card will result in votes for each of the Board's remaining nominees as to whom authority is not withheld (but not for Mr. Sharma). If you have not yet voted your shares, please do so as soon as possible. You may vote by following the instructions for voting as described in the Proxy Statement. If you wish to change your vote or revoke a proxy, please follow the instructions in the Proxy Statement.

The date of this Supplement to Proxy Statement is November 20, 2026