SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 OF
THE SECURITIES EXCHANGE ACT OF 1934

For the month of May 2014

BioLineRx Ltd.

(Translation of Registrant's name into English)

P.O. Box 45158
19 Hartum Street
Jerusalem 91450, Israel

(Address of Principal Executive Offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F x **Form 40-F o**

Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934:

Yes o **No x**

On May 20, 2014, at 10:00 am EDT, the Registrant will conduct a conference call concerning its operating results for the quarter ended March 31, 2014. The presentation with information relating to such conference call is filed as Exhibit 1 to this Report on Form 6-K.

This Form 6-K, including all exhibits hereto, is hereby incorporated by reference into all effective registration statements filed by the Company under the Securities Act of 1933.

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, thereunto duly authorized.

BioLineRx Ltd.

By: /s/ Philip Serlin
Philip Serlin
Chief Financial and Operating Officer

Dated: May 20, 2014

BIOLINERX

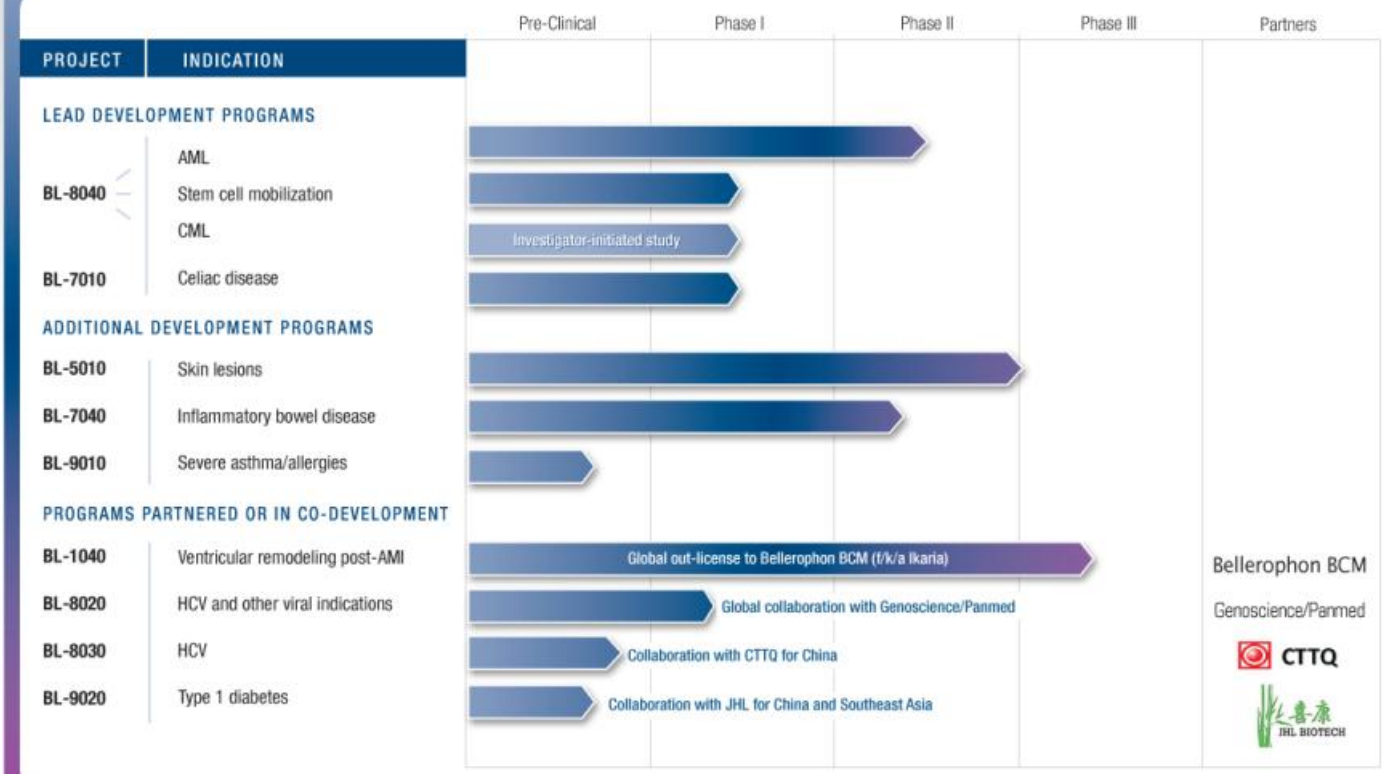
First Quarter 2014 Earnings Presentation

May 20, 2014

Forward Looking Statements

This presentation contains "forward-looking statements." These statements include words like "may," "expects," "believes," “plans,” “scheduled," and "intends," and describe opinions about future events. These forward-looking statements involve known and unknown risks and uncertainties that may cause the actual results, performance or achievements of BioLineRx to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements.

Pipeline



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Chief Executive Officer
Kinneret Savitsky, Ph.D.

Update on Operations and Lead Programs

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BL-1040: FIRST-IN-CLASS MYOCARDIAL IMPLANT FOR PREVENTION OF VENTRICULAR REMODELING FOLLOWING AMI

- **Pivotal CE Mark Registration trial progressing at full steam**
  - Under partnership with Bellerophon (f/k/a Ikaria)
    - Bioabsorbable Cardiac Matrix (BCM)
  - Placebo controlled; ~300 patients; six-month follow-up
  - Endpoints: End diastolic volume index, QLQ, six-minute walk test
  - **Completion of trial now expected by mid-2015**
  - Due to slower than anticipated recruitment
  - ~80 sites currently enrolling in nine countries (including 14 in U.S.)
    - Enrolled >200 patients to date
    - Expect enrollment to complete by year-end
  - **Anticipate filing for CE Mark 2H2015**

BL-8040: BEST-IN-CLASS CXCR4 ANTAGONIST

Promising Platform Candidate for Hematological Cancers

- ü Evidence for robust apoptosis of cancer cells
- ü Substantial mobilization of cancer cells from bone marrow
- ü Strong global IP estate: 13 issued/25 patents pending worldwide (two recent in U.S)
- ü Received orphan drug status for two lead indications

BioLineRx Programs:

- **Acute myeloid leukemia (AML) - Phase 2 study ongoing (dose escalation)**
  - ü Dec. 2013: Announced promising partial dose escalation phase results
  - – Mid-2014: Complete dose escalation/Initiate expansion phase at selected dose
  - – Early 2015: Completion of study
- **Stem cell mobilization - To begin Phase 1**
  - – Expect to initiate in next few months; study completion expected H2 2014
- **Chronic Myeloid Leukemia (CML) - Investigator-initiated Phase 1/2 Study**
  - – Expected to initiate in 2014 by Prof. Arnon Nagler, Sheba Medical Center, Israel

BL-7010: NOVEL GLIADIN BINDING POLYMER FOR CELIAC DISEASE

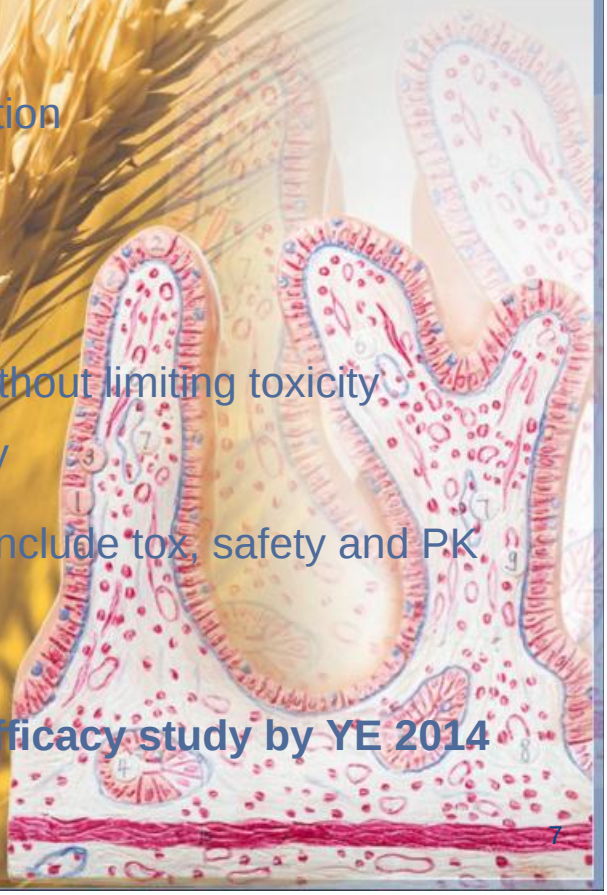
Exciting progress in a fast-growing market

- Significantly increased Pharma interest
- Very high-need and underserved population

Phase 1/2 study ongoing in celiac patients:

- Dose escalation:
  - Reached highest planned single dose without limiting toxicity
  - Repeated administration stage underway
- Mid-2014: Study completion - results to include tox, safety and PK data

To commence randomized, controlled efficacy study by YE 2014



Chief Financial & Operating Officer

Philip A. Serlin, CPA, MBA

First Quarter 2014 Financial Overview

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Completed Significant Financing in early 2014

- **Raised $24.1 million in underwritten public offering of ADS's**
  - Roth Capital (lead) and Maxim (co-manager)
  - Included 1,260,000 ADS's granted to cover over-allotment option
  - Significantly oversubscribed
- **Broadens U.S. institutional investor base**
  - ADS's purchased by high caliber institutions
  - U.S. investors now hold roughly 2/3 of total shares outstanding
- **Strong current cash position: $37.5 million at March 31, 2014**
  - Funds operational capital through end of 2016
  - Expect to reach several value inflection points during this time

Financial Overview

(in USD at 31-Mar-14 exchange rate)

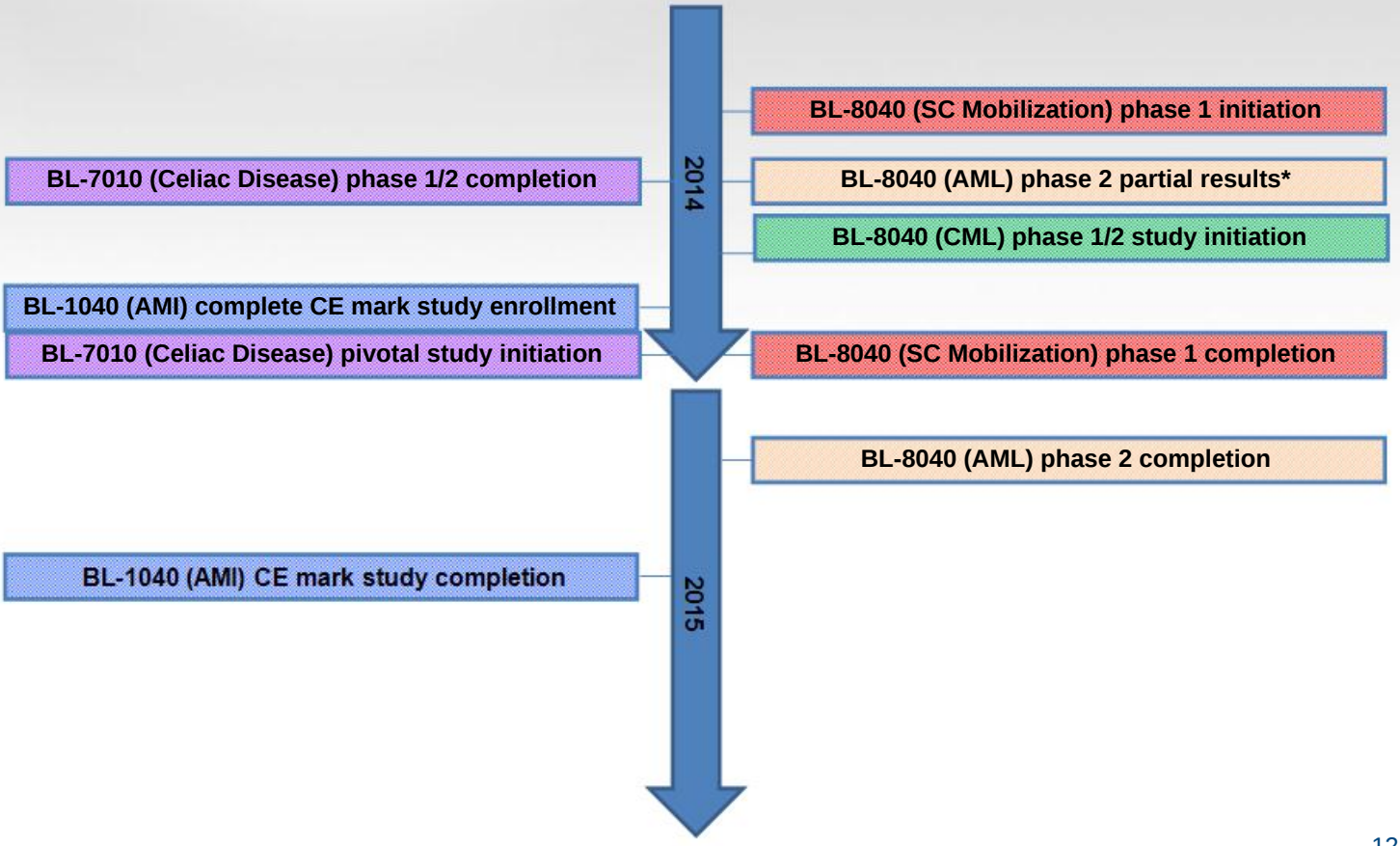
- **Research and development**
  - Total R&D expenses decreased by $2.8 million, to $2.7 million in Q114
    - Primarily from termination of the BL-1020 CLARITY clinical trial in March 2013
    - Decrease partially offset by ramp-up in spending on lead clinical-stage projects (BL-8040 and BL-7010)
- **Sales and marketing**
  - S&M expenses increased by $0.2 million, to $0.4 million in Q114
    - Increase resulted primarily from professional fees in connection with increased business development activities
- **General and administrative**
  - G&A for the quarter in both 2014 and 2013 amounted to approximately $1.0 million

Financial Overview

(in USD at 31-Mar-14 exchange rate)

- **Non-operating income**
- Non-operating income decreased $1.8 million, to $1.7 million in Q114
    - Primarily stems from fair-value adjustment related to warrant liability
- **Financial income/expenses**
- Net financial income was $0.3 million for Q114, compared to net financial expenses $0.4 million for Q113
    - Changes result primarily from changes in average exchange rate of NIS to USD

Major Milestones over next 12 Months



*** End of dose escalation phase**

Bench to Bedside to Partner

THANK YOU!

QUESTIONS?

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